NEWS IN BRIEF

Anaheim debut of disc drives

AIMING at the OEM and small systems markets, Calcomp and CDC are due to launch new disc drive ranges next month. Celcomp's product, known as Marksman, is a Winchester-type drive with a capacity of 17 Mhytes, OEM prices are sald in be under £700, lower than Shugart's new SA 4000 series.

CDC's system is to be introduced at the National Computing Conference at Analtelm, and is part of the IBM Series I compatible range of peripherals (CW, February 2). An 18 Mbyte model is said to cost about 08,000, with 00 Mbyte and 240 Mbyte versions costing about £10,000 and £14,000 respectively.

\$1,000m orders

LITTLE more than 18 months ofter its inunch, tha top-end 1100/80 system la shaping up as Univac's most successful mainfmme product aince the 1108. Worldwide orders stand at 120, worth close to \$1,000 million.

NY manager

SALES uf ICL equipment in the New York region are to ba erly with Cincinnati Milacron. Bail has been appointed manoger of Ilie New York office In place of Clive Smith

'Cartel' oritioism

THE technology and production methods being developed by the Japanese for very larga acale integration devices is to be made svallable to third parties, including foreign computer com- puler Measuremant Association. psnles. The move stems from the pressure of overseas criticism againsi a Japanese "technology

THE meeting nt the Commons between MPs and the top bross of tCL, which hed been called ostensibly to discuss the Auditor General's criticism of the company (CW, April 13), turned aut to be quite a cosy sffsir. In the event nobady even mentioned the Auditor General's report.

gut only five MPs and one peer turned up the meating coincided with gir Geoffrey

the meeting coincided with 9ir Geoffrey Howe's speech in response to the 9udget, end computere had to take second place to the weighty issues of finance.

Dr Chris Wilson, ICL'e menaging director, gave a presentation impressing on the MPe the value of ICL to the belance of payments end what a disconter it would be to the employment situation if it foundered. situation if it foundered.

"ICL is o jewel — Cherish it" ploaded his flipcherts. He quoted not only the numbers of

Dota Logic early this year (CW, Januory 5), Cossor Electronics

has taken over another London

software house, Computer Sys-

iems and Programming. The

ntove is described as parl of the

expansion of Data Logic, within which CSP will be assimilated as

an operating division. In the deal, completed on May

, Cossor has purchased all the

issued share capital of CSP from

Charringions Industrial Hol-

dings. Charringtons, the fuel

owned CSP for almost Iwo yesrs.

"THE days are ovar when you

called in the manufacturer's

sslesman to determina what you

needed to increasa installa-tion throughput. I like to think

that the user can independently

lest week by Scott Yasler,

founder and prealdent of

ECOMA - Ihe European Com-

first London conference of

ECOMA, which was attended by

about 250 European specialists

Yasler was speaking after the

This was the viaw expressed

decide what he needs."

and vehicle diatributors, has in central London, he said.

Cossor takes over

employees the firm and its suppliers have, but the numbers of their dependencess well. One MP esked whether tirere was my point

'ICL is a jewel—cherish it', MPs told

In sn R&D expenditure that was anly 1% of ISM's. Wilson pointed out that ICL took advantage of the R&D of sli its component suppliers worldwide, while ISM duplicated all this work itself.

COMPUTER WEEKLY

Asked why there was not more targe-scale co-operation with Europe, the ICL men painted out that they had been criticised for nat jaining the Europeon Unidate project, and thet project had then collapsed, simply because all it had tried to do was copy ISM.

Eric Maanman, Labour MP far Besildon, who organized the meeting, said he was still unhappy that there was not a stronger Europeen co-aperotive bese in the industry. Another MP asked what ICL was doing

regarding the work of email companies. It appeared he was under the impression that till camputers are made by bly contember and small computers by small computers. Nationly exemed componers by small componers. National seamed eager to tall him that Digital Englipment is a large company and Cray is expelled company. They pointed not that (CL build brught Singer, and it was a lasart-warming marter when they described in w proof this success in the Appeting worker building. success in the American market had made

in the end it was decided that what was needed was another meeting, at which the MPs could learn more about ICL's thinking, to the meantime ICL can take comfart that there do not spear to be ony MPe at the moment whin are interceted enough in the commonly to cut it off without a sou — nr without a preferential procurement policy.

166 teams another software house

Storiford, Herts service bureau is not part of the deol. Charringions was liself tokon over only last October by the Coalite and Chemical Products company. A spokesman suid that the disposal of CSP was not releted, but had followed an

approach from Cossor. Although Charringtons had sometimes used CSP services, it CSP's Soho Square offices had also used other companies. would also provide a useful conference and demonstration base

he sald. The value of the deal has not been diaclosed but is undorstood to be under £200,000.

take place at the Whitehurch Sports Centre, Bristol, on May 21; the Croydon Sports Arenn nn June 11 for London South; the Wouldstune Stadinni on Jame 18 for Londun Nurth; Ilm Kirkhy Stadium, Liverpool on June 25 and at Birmingham on a date still to be fixed. The final will be in late Sep-

dun SWI OPP, Tel: 01-828 5356.

lined up for

sonnel will take place in Bingley, Yorkshire on Sunday May 11.

The competition, organised by

partinent is prepared to be flexthe on the ansona of lumburge and an open that super margina linterse over the original sale may well be sequired.

DECWRITER III 180 C.P.S. TELEPRIMTER NEW PRICES 1 OFF - £1995 Microprocessor conholled "smart printing lot maximum throughput * 1K FIFO input buffer with overflow * 180 c.p.o. printing at transmission back da * Full proven 7x7-Dot Maris Print Head

With the Long Britain on 1 to 1 proud the control of the Control o

meni, Holi preasated a Semaphore Computer managament-oriented seminar on the practical application of the BCS automatic control sys Systems first demonstration in Europe of

Expandable to 2 Megabytes memory
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foreground op systems.

HASP/RJE COBOL RPG II FORTRAN IV BASIC CORAL 68 Avellabla for OEMs as well as end usara:

cerned with increasing the performance of existing computar installations, as well as planning for new dats processing appli cations and hardware configurations, il encomps sses technimessurement, simulation, and

an indepandent, non profitits primary scilvity is o twiceyearly conference for the exchange of Information. The curren I conference, ECOMA-5, was preceded by meetings in Swilzeriand and Germany and will

John Holt of Boeing Computer Services, Well known for his research into and applications of leols for dats cantrs manage-

comes to London main processor, it produces both. historical performance nnaiyses

displays,
Most herdware moniturs are
which must be connected by the user to appropriate pins on the buck of the console. Many nicusurements csn be taken directly from such probe pnints", for axample

making association of users, and is to identify these probe points in conjunction with the

ECOMA la available from tha president, Scott N. Yssler, c/o Union Bank of Switzarland, Bahnhofairasse 45, CH-8021

Perteo counter-suit

lo gain control of Tally (CW | March 30), Pertec is to bring a counter-sult which allages that Univac's Benchmark Monitor
Diaplay (BMD). The BMD,
svallable on Univac 1100s, is a
hardware monitor built into the

COMPUTER & MANAGEMENT EDUCATION SERVICES (Software) Ltd 75-76 Little Britain Lumbon EC1 Tel. 01-600 0711 ONE OF THE MOST PROGRESSIVE SOFTWARE HOUSES

More funds

likely for

Dol micro

If IS likely to be at feast two months before the topartment

of Industry's support scheme for

the nucroelectronics industry in

the DK becomes a reality, and

there is informed speculation that the money involved could

It is understread that the Fleo-

fronic Components Sector Wor-

long Party of Nitti has yet to

thish its deliberations, and pro-

aluce a trist cleate of its report to

the Department One possible

sticking point scenes to be the

amount of money suggested by

Some pressure is louiding up-

from within the industry to in-

errase the imaneral support For

example, Alan Shepheid,

Electronic Components libr.

sion, pointed out that althoughs,

figure of £80 million had been

proposed; mortred this was frets

Associution.

in o paper submitted to the council this week, ECSA also

suggests that the council should

call a meeting of all interested

countries to estoblish a

standing committee to lay the

foundation for the establish-

ment of an international con-

Japanese deal

AN ogreement on "knowledge

exchange" is likely to be signed soun between ICL, and a

Japanese company. ICL managing director, Dr Chris

Wilson, emphasisea that the

agreement does not involve

product or marketing arrange-

AN inquiry is being held into

sliegations that ICL paid for two

Leeds councillors and their

wives to go to South Africa last month. The two counciliors

were intorviewed last week, and

will be seen again tomorrow (Friday) by Clir Erwin Bellow,

Council probe

Tesdata sued

Comten patents.

already on going government

around t25 unlines," he said.

"The actual new amoney h

nanagnig director of Lerrain .

the Did ti. W. tannary Pit.

be considerably facteased.

policy

리 롤



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Software support for 1900 piedge to users

for "at least seven years", and a prediction that in 10 years' time ICL would have a £2.5 been no fundamental design problems and billion turnover with over two-thirds outside that in a few years' time, when other the UK, were the main messages given by manufacturers might be introducing new importance of its 1900 and System 4 users, ICL directors to the ICL Computer Users' Association annuol convention at East-

In what most delegates regarded o compelent, although low-key speech, ICL managing director Dr Chris Wilson emphasised that he believed that ICL's decision 10 years ago to develop the new srchitecture of the 2900 would put the company in an extremely strong position once the initial development problems had been ironed out.

He admitted that the 2900 development

tured" range. He said he believed that ICL could con-

thue to grow at about 20% per annum. At a Press conference, he also said that it was vital for the government to continue its

procurement policy favouring ICL He said that, without an independent ICL, the balance of trade could be adversely affected by about £1,000 million over five years. The commitment to the 1900 series was

made by ICL's marketing director, Peter

Ellis pointed out that it will take five years before the ICL moinframe installed cua-Iomer base becomes predominantly 2900 series and that ICL was fully aware of the product lines, ICL would have a "fully ma-

New 1900 systems were still being delivered, he said, and these are automatically covered by seven year maintenance con-

He sald that ICL would attempt to ensure wherever possible that new perlpheral devices would be available to 1900 and System isers, although he could not promise that this would be feasible for all devices. ● Mare an Eostbourne convention — pages 2,

Top ICL directors attended the ICL Camputer Users' Association convention in Easthourne last week to tell users that the "wind of change"



would be ridden by ICL to a profitable future. Seen have in front of the convention centre in Eestbourne ere (left to right) ICL managing director Dr Chrie Wilson, morketing director Peter Eille and director of external

Briefing Mixed reaction to Sir **Keith on Post Office** European harmony plea

Unian strongly disagrese with Sir Keith Jacoph's views expressed ALL legislation concerned with the relotionship between computers and privacy, data protection and security should be harmonised by o standing committee to be established under the ouspices of the Council of Europe, according to the European Computing Services

been welcomed by Racal.

"Once every Tom, Dick and Herry connects his own equipment to telephone lines, there's na telling whnt problems cauld result," said a POEU spakesmen.

"We era ant uncriticel of Poot

Office operatione, for fram it. Thay should be much closer in touch with morket needs, and speadler in acting an them. To this end the morketing budget hos recently been doubled to £7 mil-

level that we would recommend", eald the union official.
"We think the Post Office has been very slaw in introducing new equipment. An exception hoe been the viewdata service, where the introduction process

hae been shortened by o whole "But the Poet Office method at putting new equipment on triot is beelcally sound."

Leighton Davies, head of Racai Data communications nented, "We hove sald very little to the Past Olice in the pos

tre is considering setting up o computer security service to act as a focal point in providing advice and education on security, and in bringing together users and providers of

As currently proposed, the

suppliers and products, and

with existing consultancies; this would be an "umbrella organ-

Isation" with threa basic alms: to

kind uf order from the chaos of currant compuler oyslain A proposal has been made that all government computer procuremani contracts should include a clauss which requires

companies bidding for a contraci to includa a detailed explanation of Their input-output and terminal interface atandards. Another propossi baing considered is that manufacturers tendering for government contracts should provide sbftware

to meet internationally agreed software sinndards. This type of government move towards siandardisation ia in line with pressure being applied for in-creased standardisation in the

A recent report by the US ment emphasised that lack of

EEC leads on user freedom towards growing user Indepengovernment hundreds of mil-Howard Wrigiey urged the dence from manufoclurers hos ons of dollars. been made by the establishment On her recent visit to Loudon. financial backing to user groups of a working party within the which have objectives wider

Ceptain Grnce Hopper atreased EEC looking at the role public that it was the intention of the procurement can play in insplementing international standards, and by a cuil from the US Navy and other government departmenta to make the inceting of slandords obligatory chulrmon uf the ICL Cumpillor in tendors. Users' Association for British And the US National Burenu government backing fur usor

uf Standardo is working on a groups which are studying prodofinition of an I/O interfaca lems thoi concern nil users. slendord with a view to making The EEC working group ia it in undatory on all computer studying woys in which the combined purchasing power of blds for government contrnets. Although it would take some time for European govaruments governments can creata soma to agree to any cummon atsndard, thore is increnaing

ressure from commercial users for improved portability of peripherals and aoftware. Speaking lost week at the iCL CUA convention in Eastbourna

Series 1

Series I mini are scheduled for Juno, including CPUs with up to 128K-word nisin memories, and ıı fluppy-disc mogozine system sintilar to that just introduced on System 34. A 64 Megobyte hard disc ond a 370 channel adaptor are also as ld to be on the (see pages 2 and 11), the way.

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"这个人,我们就是一个人,

Semaphore Computer Systems Limited Bitroph House endough Agan Apabah anns surfiely in compulsr parformance evalu-

of whom it is intended to retain,

The existing managing director, Clive Wootlon, will become div-

isional manager within Data

Logic.
The merging of the Iwo

operations will bring Data Logic staff up to 275. it will also bring

onboard some complementary

skills, said a spokesman, notably

Charringtona' other com-

In small iBM systems.

Thia field is primarily con-

ques of hardware and software Founded in 1976, ECOMA la'

be followed by a second con-ference in London, ECOMA-6, 10 Bs hnho be held in October. One of the highlights of ECOMA-5 was a seminar by

and real time colour graphic

CPU idle time or channel busy One aspect of ECOMA's work

Further information on

FOLLOWING the dacision by Tally lo sue Pertec for alleged improper solicitotion of Tally shareholders while attempting Tally directors declared a 10 per sole aim of winning aupport of shareholders. Pertec, which



THE first regional hear in the nationwide Computasiars sports competition for DP per-

with 20 male and eight female

John Goldsnilth (Computer Ser vices) Ltd with the support of Computer Weekly, has attracted The other regional heats will

Although he more teams will be accepted for the competition. unyome wishing to assist to any of the events, should control Gurdon Culrus at John Golds mith Computer Services, 15 Buckinghum Palnee Road, Lon-

adding that recent the staffments had industed that if aught necessor the "ness" mother Corpor "Helwegor the Late modber (my feeling the sink It is malerstood that the De-

vention of basic standards and regulations Harris £3m order A MAJOR IBM user, Cadhury Schweppes, has gone to plug compatible manufacturer, Hnrris Systems, for £3 million systems tu hondle jobs like order

Still in the running United Kingdom RAIS

A MAJOR ICL diser, Unigate \$153 million, Appleton Papers Foods, is currently evaluating main business is carbonless 18M and Univac machines as paper, and the acquisition will

THE Poet Office Engineering lian, but this is still far below the

to his Computer Weekly intor-view (CW, April 27) that telecommunications should be freed "as totally as possible" from the control of the Post Office. But fir Kaith's views heve

nine yenra. The Post Office has in o way been a competitor of oure, and e relaxetion which ellowed us an to the switched network would halp substantially."

Security service planned by

worth of Harris 8170 terminal THE National Computing Cen-

security systema. To this end, the NCC is carrying out a survey of possible suppliers and users to sea what the demand is for such a scrvice.

service would comprise a newsletter, reporting on conferencea, legislation, booko: published, cases of security breaches, etc; pockaged training courses; publications and advice and consuliancy; conferencos and workshups; information, in the form uf indexes of

In setting up this service, the NCC emphasises that it would not be going into competition

division for £153m

THE Appleton Ropers division of NCR in the US is to be sold to British American Pobacco for JBM and Univac mechines as pater and the acquisition will possible replacements for its two complement BAT's Wigglas ICL 1904A systems although Tespe subsidiary which is pre-iCL instill in the running with a studed from the US by agree mants with Appleton

increase usaro' ownreness of the need for security and what options are open to them; to encourage the provision of products and cervicus for security; and to establish alandards.

As part of its "lesting the woter" the NCC is talking to the inourance and security industrice, and to the Computer Ser-Alan Benjamin, director-

general of the CSA, told Computer Weekly that ha thought auch an organisation was needed, hut could not say whether the form as at present conceived would be acceptable.

THE performance evaluation, would be an "umbrella systems munufacturer, Tesdata, systems munufacturer, Tesdata, BAT buys NCR petilors. Comten over resdata's alleged infringement of two division for £11

OUR 600th ISSUE THIS week we produce our 690th issue and, despite production restrictions beyond our control. Computer Weekly is again packed with news and viewe for the widost cross-section of the computer industry. The extent ond conpe of computers host changed almost beyond recogeition since CW was issuiched in september 1898, but we have endeavoured to report on all especial to the ohanging stens. This comprehensive coverage has been politived with the help of the industry hod we thank them for their suppart.

To carry on the undition, this week's issue includes a detailed report on the iCL Computer.

Leery Association ennual control the running of the ru

JOB OPPORTUNITIES -PAGES 17-47

than purely parochial mannificturer-dependent issues. He pointed out that the EEC funded the innugural meeting of Turn to page 14 June boost for

ENHANCEMENTS to the IBM

page). this association should be to protect and help maximise the protect and employers' investreturn of our puting — and not ment in computing — and not just on our relationships with LCL." he told the Esstbourne

convention.
Taking this wider view — that Taking the day cease to be the centre of the association's unicantre of revolutionary visw of verse—is a revolutionary visw of verse-13 of user associations, the nature date have been almost which to concerned with the important but parochial conimportant belt manufacturer-cerns of their manufacturer-dependent relationships. dependent that is still perhaps it is n view that is still perhaps

It is n view thead of its time, yet sume years ahead of its time, yet one which is of fundamental

COMPUTER WEEKLY

Thursdoy, May 11, 1978 01-261 8033

Deputy Editor Tony Hisgine 01-261 8688 мападег: 01-261 8350 ⁷

Class Ad Manager 01-281 6026 Irlan Durrant

(PC Sieridasi Electronia Pross Lid, Porte: Hoves, Granlard Strass, andes, 55 1 SU. Tiephone: 01-25 1 GOO tegrans/Talas: 25137 GISPRG d

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Regulation for part of 1975

A PC Businat Plass Ltd (1975)

A PC Businat Plass Ltd (1975)

A PC Businat Plass Ltd (1975)

Computer Weakly Lt and State of charge in the Coloring categories in the UK and Sire captured to the Coloring Categories and the Coloring Categories of the Categories of the Coloring Categories of the Coloring Categories of the Cate

position.
Computer Weekly has a pirculation dea.
Computer Weekly has a pirculation dea.
Week of over \$2,000 including the highwork of over \$2,000 including the hightet fully requested derculation in the UK,
the letter of the computer has a computer.

ISSN 0010-4787

Users must reach for the stars

significance to the whole future of the changing nature of the

manufacturer/user relationship. The most important party in this relationship should be what is so often called "the end user", but should be seen as the starting point of sil computer sys-

"end user" wsnts stability, ease of use, portsbility, , flexibility, in fact, sil the facilities that make the computer system manufacturerindependent and user-Jependen t.

As Dr Wrigley so rightly pointed out, this mesns that users should be concerned with

THE forthcoming confrontation

other bodies in the computing universe that can exert real pressure on developing national and international stondards which will promote the needs of the DP department's users bodies such as the UK's Notional Committee on Computer Networks and Data Protection Committee, or the EEC's Conference of European Computer

The potential power of the EEC in these sress is graphically illustrated by its plans for insisting on standardisation in systems entered for public sector tenders (see front page). Dr Wrlgley is not siona in

perceiving the importance of these supra-manufacturer user groups, and has the active support of other user groups which ore now hegitaling to work so effectively through the National Computer Users' Forum.

But to the average user, who is incvitably more concerned with the weeds in his nwn buck gurden, this group must still seem to be invulved hi same farm of noble but obscure space explo-

While in no way suggesting that user groups should ceuse to press their existing manufacturers for better terms, Cnmputerview believes that Dr Wrigicy has pinpointed clearly the major issues for the future and should be given the fullest possible support, not only from the ICL CUA, but also from all other sectors of the computer community.

with o collection of Analga-

mated Engineers or Scientific

Workers, hardly saems appro-priste. Meonwhile, next week's

Ops v Monogement moctling

INTERRUPT

IT was really quite o straight-

forward job, so the programmer had no quaims about lenving it

to be run overnight. He had been

informed that a certain disc

should be interesting

between operations and miniogement, organised by Computer Weekly and the Dstn Processing Management Computer Weekly and the Dstn Processing Managamont Association, could well be the cvent of the season. It could also be the start of a fresh and much-needed driva towards better understanding. The understanding which takes through the Operations denartment. They know only too well without the care and attention of tha trinde unloits. Pay

well the snags and frustrations of the job. They also sppreciate the fact that the computer exists the hand the snags and frustrations of the job. They also sppreciate those of Ops — and there is no lack of opportunities. It in the snags are high — including the snags are high — Dala Instituta, London, kick on 6.00 will, according to Bernard Alien, CW's resident Op Spot for the benefit of the computer exists for the benefit of the compsny, not for stroppy operators.

Present-day DPM's, if not at least we are entitled to s cmft to the computer exists for the benefit of the compsny, and few seemed convinced, then at least we are entitled to s cmft.

doubt half an hour after commencement, the oparators present will call for a coffee break. Should the session procaed beyond the appointed timescale, snecial attendance rates will operating hand in. It is his prime have to be negotlated. operating hand in. It is his prime Overriding the session should be the question of responsibility: rasponsibility to maintain DP operations at sil times. It must the manager's responsibility towards his parsonnel and in ponsibility and loyalty towards their employers.

be samitted that this task is becoming increosingly difficult, especially in the face of trade union blandishments towords computer operating teams.

That rade union array is for-

heir employars.

DP managers are finding midabia. Both Cilva Jankins themselves at a loss in their relationships with the installareistionships with the installation Ops team. No longer is the thame "What is good for tha added clause now has to ba included: "norticularly the operacluded: "Porticularly the operstors." No matter how many filtrate the Dp field, particularly allowance manufacturing: and allowances are made by the the manufacturing and

DPM, mora are tsbisd immediately. Special handling pald for multi-part printer runs. of viaw that presant aggro is all one-sided. Unlike operators, fsw of whom have experienced the reaponabilities of DP mansge-

agn

美国经济的

MAY 9, 1968

files to magnatic tape, re-initial-iso tha volume snd reload the dala. This, of courae, was extremaly easy as the reload program did, all the complicated work of redefining the file grass and characteristics. It was about 2.30am when the oparator realised that all was not well. The reload program would only reload half tha volume before stopplog, and It baoama apparent, on careful checking, that the dump pro-gram had discovered tha flawed aress and writtan corrupt details for these areas. Howavar, by now the volume had already been re-initialised, thus clearing it of all previous data; Slowly realisation dawned that this volume was not the one required avary six months for pariodic stooktaking but the 90... COMPUTER WEEKLY TAKING their first steps away from penched cards into key-romes tape data preparation. IBM and Hotelywell introduced the Model BO data integriber and the Kaytapa device respectively. Riscal-Milgo's new high-apaed modern allowed transmission at up to 4,800 bailds. The world-west success of Honey-west's Series 200 had lied to experision in production at the Newholips. Scotlying, factory to three times that of 1888. Franklin Rational Bank of New York was helping this brain drain by silvertising in the UK delaring of 53,757 for programmers with policy six months, experience.

stooktaking but the one that was a vital component of the communications systems which had to be brought online by 7.30am. This was an example of 'Murphy's Law' which says that the wdrst will always happen. About this time people began to panio, especially when it dump copies of the volume had these corrupt details as well.

Eveniually, siter some quick the computer industry, the data manications aystem original the computer industry, the data manications aystem original steps and the component of the component in one piece.

The morals po pysicything in each step before going on to the something hasty. In case you we loaden in

Plea for users to look beyond manufacturers

National Computing Contra

the Consomers' Association

he believes that one of their

Important tasks for the asso

Hou is to determine its obje

tives and its method's

arthreting those objetting

may think, I do not regard to

Imaurial dependency of &

CUA on ICL as the single nor important issue facing the

He said he believed that the

would be a disadvantage to a

He also stressed their

creasult interest shows?

governments and the EEC:

'sceking to myelve aserabili

the formulation and implement

tation of policies relating to a

development of computing.

"The participation which

myne through associationsis

as ours as based on the fidy

are users and our ICL con

tion is largely irrelevant.

For the unnedfale fultil

Wrighey recommended that

strin tore of the ICL CUAshel

triming basically the same at

assistation of user groups with

"reflects the fact that the pie

traceur for our existence & 5

allow users to collectively at

longer term view that the

association should look beyon

iCl., he helieved there should be

all increase in the number of

study groups and working par-

tion These would study issues

specific to ICL equipment, such as serviceability, but would be

Increasingly Involved in con-

sidering matters referred from

nutsule organisations.

TELETYPE

14 120

Model 43

30cps 132cpl

ASR

But, to take arcount of his

and react with ICL."

them," be printed out.

namularis '

association," he said.

"t contrary to what some per

Or Wrighey emphasised a

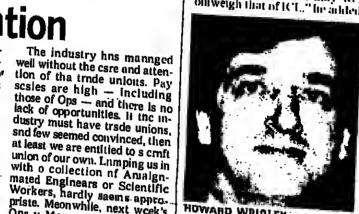
THE ICL Computer tisers: And he added that it is tar tetriled view in force regard It'll us the "reafte of its denuise of manufactors other hodies, such as the EEC, to protect and help maximuse the return on their employers' Investment in computing. are a "sout of cross between

That was the way in which ICL CHA chairman, Dr Howard Wrighey, summed updays view on whether the association sloudd become financially independent

Dr. Wrighey, speaking at the Eastbourne convention, proprinded on what he called a 'revolution la attitudes."

"It is my view that in the future ICL will cease to be the centre of the universe as far as this association is concerned," he sold, "ICL is our sun. It is out of ICL that we have been created and ICL has northered us for many years.

objective of the associate "But there are other hodies in maximise the return on a our universe and though then influence may seem slight at employers' investment in copresent, it will increase until forting " In this wider contin he could see the "potentials their cumbined effect may well onliweigh that of ICL." In added couldn't of interest betwee users and ICL where one ability to act independent



HOWARD WRIGLEY

Dr Wrigiey emplorsised that it was vital, for example, that get works should be manufactorer independent, and it was import and that the views of users were presented strongly and coherently to nuturnal and in ternational budies such as the UK's Nutional Committee un Computer Networks, which is lrying to establish networking standords (see buck page),

volume had some flaws nn it, so had decided to dump oli tha dato "There seems to be a general recognition that users' and mnnufucturers' interests have un increusing tendency to diverge while the interests of users of different numufacturers increasingly converge," he said

LEAR SHEGLER

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for micro money for a share of the money the Deportment of Industry is plandependent user groups ning to invest in the UK microelectronics industry for replaced by new super their own in-house development as octations, because in Enand Germany there often embryome organisations th

Communications.

tronics Board.

ICL has a microelectronics factory at West Gorton, ond Racal has one at Reading. In each case the plonts are deve-loping speciolised high technology chips for use in forthcoming products and each has a small-scale manufacturing

Speaking in London last week. "talking closely" with the Deacts chairman Ernest Harrison partment of Industry. Racsi chsirman Ernest Harrison said the company was investing £1.5 million in the Advanced Development micro division.

Chief executive of the new

group is D. Leighton Davies,

manoging director of Racal-

Milgo Ltd, who has sisn been

appointed to the Rscal Elec-

Racal Data Communications

takes in the company's two US acquisitions in the field, Milgo

Corp of Miami, Florida and

The group employs 2,000

Vsdic of Sunnyvale, California.

support for applications work (CW, February 16). Datacoms group formed IN a bid to get a 50% increase to 1978 did over £50 million of Harrison underlined the import-

£75 million in its worldwidedato business, representing about ance of profits which have taken communications business this 25% of the Rucal Electronics year, Racal Electronics has formed a new group, Racol Duts

ICL and Racal ask

are in microelectronics us a

husiness, but should also sup-

port capital goods munifac-

torers like Racal which hove set

up plants for their own special

Dr Chris Wilson, monnging

director of ICL, echoed the coll.

Last week he emphasised that it

was essential for companies like

ICL to have a semiconductor

capability of their own in order

fully to understand microelec-

tronics and sald that ICL was

"We would like a slice of the

LSI support money," he said, adding that the company did not

needs," hc sald.

"The government should allo-cute money to companies which intend to become a major manufacturer of standard

semiconductor components but

needed to be able to do its own

Dol propossis, set out in its

report to the Nedu components

sector working party, originally

snid that in-house facilities

would not get support unless there wos a link with one of the

UK semiconductor manufac-

The emphasis at the Depart-

ment wos, however, being

changed and extended beyond

component manufacture in

isolation towards o more flexible

spproach that would include

the compony to the top position

in the Manogement Today table

of most profitable UK com-

customised LSI designs.

turers (CW, January 19),

Harrison stoted that Racol-Milgo's entry into the European data terminal market two years ago was a dissster. "But we learned from the mistoke, and we now have a better product at a better price in the US, and will re-enter the Europcau market in September," he said, confirming a Computer Weekly report last year (Janusry 20, 1977).

Reporting the 23rd consscutive year of record output and people and in the year lo March in the year to last March record profits — over £45 in Illion

Three new terminals from IBM

THREE communications ter- used for local input and output. minals introduced by IBM extend the copoblity of remote job entry terminals using Systems Network Architecture. The terminals are the 3776 Models 3 und 4, and the 3777 Model 3,

control up to six concurrent jobs by multi-leaving vio SNA multiple logical operation. This allows online jobs to be initiated 3777/3 with a magnetic tape at ony time an SNA session is unit, line printer, card reader avoilable for data transmission.

A magnetic tape unit and £70,400. controller can be linked to the

The units can be used for incssage spooling and operator prompting via the standard consnie dispisy.

A representative configura-tion of the 3776/3 includes The terminal operator can printer, card reoder and a diak ette unit ond sells for about and diskette is priced of about

The 3776/3 is a 300 lpm unit, terminals and assigned to an independent SNA session, or and the 3777/3 1,200 lpm,

Multiple solerosis warning aid EARLY diagnosis of multiple by some stimulus, such as in this

Digital Equipment GT46 system at the National Hospital for Nervous Diseases in London. The GT46, a laboratory system ased on a PDP-11/40, avarages visual avoked responses from patients, abnormalities in which can be an early indication of multipia scierosis.

Evoked responses are tiny evariations to the elactrical signala picked up by electrodea on the acaip - variationa caused displayed on a screen.

scierosis is being aided by a case the sudden movement of a checkarboard pattern held in front of the ayes.

To eliminate noise, the

stimulus is rapeated 256 times, and the signals from all these samples are averaged together by the computer, after being

The end reault is a wave form coverlog a period of 256 milliseconds after the onset of the stimulus; this wave form is

MACS presentation next month FIRST official mention by Austin, Texas production cen-

Motorola Semiconductora of MACS, the Motorola Advance Computer System, is likely to be given at a one-day forum the company is planning

tre, at Microforum, a one-day seminar to be held on June 19 at the Institute of Electrical Engineers in London.

MACS (CW, December 1 It is to be part of a programme of presentations by Colin Crook, director of MPU Operations, and Gary Daniels, director of MPU Design from the Company's understood to contain such features as 32-bit registers.

Sperry Rand record year

THE year to March 30 was a standing at \$1,071 million, up record one for Sperry Rand. 19.4%. Profits were up even Corp. parsnt of Univac. The more 24.6% at \$60 million. company's net profit was up Computers, which represent about half of Sperry's business, made a strong contribution with turnover up 11.6% at \$3,649 million. Turnover for the January March quarter exceeded \$1.000 16% and year end back log up million for the first time, 18% over the figures for 1976-77. COMPUTER WEEKLY, May 11, 1978 Computer power chaose their child's school de-

pending on whether the school has its own computing power. Discerning parents were choosing schools with com-This trend was noted at the latest meeting of the Microcomputer Users In Secondary Education held in Nottingham. Nearly 80 delegates listened to a review of the latest microcomputers from John Coll of Oundle

School, Pcterborough. Colin Wells of Down School, Kent, outlined his experience with a micro within a secondary modern, sud Bob Eadle, from Bedford Schnol examined the benefits of floppy-disc based microsystema While moncy for educational

purposes is notoriously lacking delegates pointed out that cer tsin schools are given an allowance for telephone charges between their nwn terminnis and a central mainframe. This sllowance could amount to £500 and represented a large proportion of the outloy needed for o

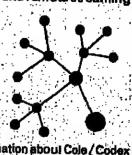
COLE/CODEX BELIEVE STING Control Petanthe nuzz word in the trace of munications malager's vocabular? Missie, but in these difficult times of staff. Tecruitment problems, it takes on a new maaning. . . the bility of ona parson or group to successfully maintend data communication links and to disgnoss the little se they occur. Tha Cola / Codex Circuit Quality Monitoring Systam (CQMS) gives data communication users the ability to monitor, test and diagnose high speed data natwork parformance without interrupting data transmission. CQMS has a whole host of features including: the monitoring and storing lina condition displaya, eya pattarn and an order coefficients; a built-in aynchronous and coefficients; a built-in aynchronous and coefficients. etar. COMS is ideal for all types of cuit testing. However, for high spaed multipoint circuits the Cola/Codex Multipoint Network Centrol System (MNCS) raigns suprema. This unit allows users to carry out ramote tests, parform control unctions, again without Interrupting data flow, and to re-configure Codex LSI Fast-Polytunitation, moderns distributed in a multipoint network. MNCS features include: programmable system restoral; local and ramota streaming detection.

YES, the gentisman in our picture is wearing a kilt. He is Or Michael Mec Denaid, eacretary of the Scottish Terten Seciety end cureter of the Museum of Scottish Tertane in Perthalilre. The museum helds an archive of Highland dress and tartane, and is now using on Olivetti TES 581 word trying to trace their Scottish encepting to the properties the properti

ueing en Olivetti TES 591 word if the numbers of etrande of coeh processor to help anewer the 18,900 inquiries eyen it receives it can even give the its cate of the

learn used to make the pield.

frem peeple ell over the world



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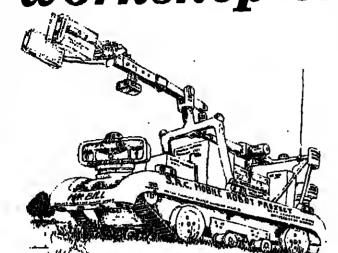
MICHIE'S PRIVATEVIEW Robot workshop of the world?

committee on automated small botch production has concluded that the UK lags our major industrial competitors by about 10 years. This was revealed at a meeting on robotics sponsored by the department's National Engineering Laboratory. The meeting was both thrilling and deeply depressing.

Internationally minded enthusiasts for new technology were given a feast of new marvels from the R&D laboratories of Volkswagen, Renault, Fiat and Unimation. The latter's current experiment is with two-armed assembly of an entire car tranamission system. The meeting also listened

with disbellef - and for those pntriotically inclined - with horror to evidence of the miserable neglect of robotics R&D in the UK.

It is now argued by some that R&D would come too late. An initial headiong scrumble is now needed if seeds of the new



This concept of a rough terrain robot has been created by Mike Larcombe at Worwick University under the Selence Research Countries.

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industry are to be planted in UK soil. Such a scramble has to start with importing and copying. Only when o viable domestic technology has been thus established can we be in any position to understand and exploit the fruits of new research.

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My own inclination is to draw a sharp distinction between robots for British

manufacturing Industry, and rohot manufacture as a British dough robots off the shell. Industry. In the second I per-

ceive the real chances - based

on selling where the market

really is, This means booking

on the huge manufacturing in-

dustries of our competitors in

Japan, West Germany, and the

So long as the annual rate of

investment in new plant and

equipment runs at obout one

naif that of the main competi-

tor nations, our factories can-

not afford even to assimilate

the inventions of the past, let

alone take up revoluti**on**ory

Could the UK become the

robot workshop of the world?

like Unlination will be hard to

beat. In the "hand-eye" game

anyway, even research will

need to import the engineering

Here capital costs and heavy

engineering capacity are not

the constraints. The industrial

Software is another matter.

hardware at the start.

the immediate future, glants

US, as prime customers.

But which country's R&D will be first to put real smart ness and learning ability into their make-m//

Not only computer scientists but many others perceive ur the foreign robotics build no something of an emergency R&D projects conducted in the wartime style, cutting red tabe. have been discussed. Some years ago I myself attempted to mount a robudies "crash project" of this klud, but the climate of official ordnlon was not ready.

For the time, heing, then, the priority must be just to scramble, importing and copying finished technology. Fundamental robotics should be done, but genreal towards the post-scramble 1980's.

There are ways, particularly in "computer vision", in which such work could blend well with a well-planned "expert systems" programme, My hunch is that the inceting point



exploratory vehicles which centific to exercise some scion titic expertise

let Propulsion Laboratory Mars Rover vehicle is the supreme example. Due to be operationative the mid-1980's. will perform on Mars many d sorts of measurement which lamen astronauts di on the moon.

Bonald I belie

conversion effort.

The version produced, which will be marketed by Atkins, is Many of the knowledge used by Rendel, Palmer and representational issues can b Tritton in conjunction with its studied with quite chem Inhoratory rigs. Shown here's own graphles software. However Atkins says that the Mike Larcombe's drawing of stondard Asas display system, ASDS, based on Gino-F, may be Mr Bili, the mobile robot he's developing at Warwick Uniincorporated for future versity which mude its debulat implementations. a Royal Society soirée.

The DECsystem 2020 Implementation was demonstrated by Digital Equipment at this year's Hanover Fair. Atkins has also run the software successfully on a 2050 machine and has been asked by DEC to consider an implementation for the VAX processor.

including the DECsystem 2020.

SOFTWARE FILE

Asas implemented on

THE popular structural en- the range of options open to

Prime minicomputer

Asas, which received NCC support under the Software Products Scheme, has been widely installed in UK bureaux. It has previously been run only on large systems, including Univac 1100, DECsystem 10 and CDC mainframes.

Its implementation on tha Prime equipment further widens sibla considerable savings in

gineering package Asas has for the first time been implemented on a minicomputer, a 256K

Prime engineering users. The system already supports the Genesys and Pafec packages for Prime 400. The package deve- structural analysis, the latter, lopers, Atkins Research and De- like Asas, offering finite element velopment, have also adapted capabilities. Atkins has now concluded

the software for a greater range of Digitat Equipment models. an agreement under which Honeywell eustomers requiring The system, in its latest a structurel analysis package elease, Version G, was con-will be referred to Atkins (CW) release, Version G, was converted for use on an in-house Morch t7, 1977). The company is Prime 400 by consulting engineers Rendel, Palmer and Tritton, ways in which Honeywell customers could be serviced. who quote an eight man-week

Sydney office

AN office in Sydney, Australia, has been opened by London systems house Hoskyns. While the eventual aim is to provide a full range of services as in the ·UK operation, initial efforts will be concentrated on marketing software packages, particularly the company's well-established Modular Applications Systems

TP applications is frequently

lengthy, tedious, and error-

prone. As a result, most TP

monitors now provide methods

of onlina screan formatting

which generate appropriate maps and control information

Such features can make nos-

automatically.

A NEW version of the Pefec program for autometic finite element calculation hee been introduced by Computerline Bureou Services on Plessey's ICL 1906S et Weybridge, Sur-rey, Pafec 75 makes the prepa-ration of input date more straightforward and offers the straightforward and offers the user enhanced run-time control and medelling facilities. Module names may be ab-

brevisted to four letters and the analysis program can be run in parts, with facilities for off-lining, estending, and altering sech section. Parac 75 elso simpitfias the process of error correction and stigws the user to

mis certain finite elements. Sath Pafec 70+ and Pafec 75 are used internelly by Pleasey, the former being the company standard for finite element cal-culations. Originally written at Nottinghem University, both packages are marketed by Pafec Ltd, a company farmed specially for this purpose, and era offered by Computerline

User develops Shadow II mapping aid

Substantial software packages, they are in general offered as

chargeable options. For

example, the relevant Shadow II

option, Online Mapping, ia

avallable for a basic price of

A programming aid has now been introduced which offers

Shadow II users a new aitern-

ative to hand-coding MAPD

asaembler statamanta, Deva-

ioped by a Shadow user, as was Online Mapping (CW, April 22,

076), the product, Shadow-

Mapgan, is being marketed by Adrem Systems and Program-ming Ltd.

mode pre-processor which

nccepts twenty-four 80-cniumn

cards representing the 3270

screen format ond contents.

From the poaltion and chorac-teristics identified for each field,

the program generales oppro-

Shadow-Mopgen is a batch

More control theme of Apollo offered as Pafec update Stand-alone pack

loped by Value Compuling Inc as part of its automatic scheduling system, The Scheduler, is being offered in the UK and Europe os a stand-alone pack-

The subsystem, Apollo, provides OS users with online facil-Itles for submitting JCL. As with other Value products for operations management, It will be marketed by RTZ Computer Services.

When used with The Scheduler, the Apolio subsystam retrieves JCL automatically from a production JCL library according to the schedule de-fined in the work-load control file. JCL is then submitted automatically to the operating syatem queues in schedule

However, the system also

Passed to the Shadow map-

ping support macroa, thesa

statements in turn create the

source books and control infor-

mation required by Shadow

Altergo reports that a number

of users have over the years

producad similar softwara,

usually tallored to spacific in-

stallation raquiraments. Be-

cause the products catered only for limited subseta of Shadow

facilities, it was unoble to adopt

Shadow-Mapgen can be

rented for £25 pcr month and

may also ba available for

purchase outright. Adram Sys-

tems and Programming, which

oxpects ahortly to infroduce

further, more genaral, software producta, is based of 9 Cuckoo Hill Drive, Pinner, Middleaex.

application programs.

facilities for temporary overndes, such as date card changes

or changes in parameters. It is these facilities which comprise the stand-alone package. Constituting a card-less front end, the system allows an operator to select, modify, and submit JCL and control cards without leaving the console.

Jobs submitted can, if required, be completed automatically; more generally, they are antered to the Hasp or other queue under Hold, so that sub-

Besides allowing central con trol of JCL, the system also offers the advantage of automotic audit trial of all JCL changes made. Another useful

feature is the ability to display procedure libraries online. Apollo interfaces with a standord Partitioned Data Set of with a JCL master library held by the Librarian, Panyalet, or any other source library avstem It runs under MFT, OS/VS1, OS/VS2, and MVS, supporting ASP, JES2, JES3, and Hasp.

Foresight enhancements

ENHANCEMENTS in the latest for reports to 30,000. release of Foresight, Version VI, are designed principally to extend the program a capacity and accelerate its calculation facilline, thus avoiding the necessity for repeated definition of an lties. Foresight, a finoncial planning and reporting system, is owned by United Computing Systems Inc. and is ovallable from LUCS either as an interactive bureau service or as a pack-

nga for by hount a time. Version VI extends the number of reporting periods the number of operators and operands per lina from 10 to 100. and the total matrix positions

Another enhancement is the provision of an olgebraic logic facility. This can apply a relationship to all elements in a

African 'first'

A COMPUTER services com pany tr. Abidian in the twery Coast has become the first user in French-speaking Africa for Gael 3, an accounting package sold by Sligos-CPP. The company, La Cierle, will run the softwore on an IBM 370/135.

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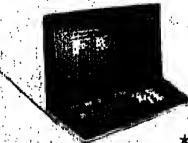
(avboarda avallable

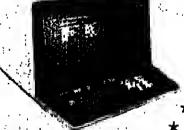
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Two winners in Fortran competition

competition have now heen DINT function using the strict ANSI 1986 standard.

gront care, nutling even the least divergence from the ANSI Some competitors may bay similard. Well known for his examined the table of pillass. computing and statistics divisinn of the Clinical Research Centre - mointains he enjoys the work. Programmer Notes offers thunks for all his hard effort. His repart follows. . . .

THERE were 43 entries altogether. The variability in size of entry was enormous. runging from a postcard at one end of the scale to 40 pages of

computer nutput of the other. Seventeen of them could be rejected at nucc, either for obviously falling to do the right joh or for viniations of the 1986 Fortran Standard. Some of the violations were serious: mixed mode (Integer and duubla pracision) expressions, deciaring
DOUBLE PRECISION DINT

in the second line in addition to DOUBLE PRECISION FUNCTION DINT (VALUE).

on the first; a loop expressed as on. A few were merely forgetful, such as omitting the END line; while seven fell into the trap of including non-Fortran characters (: ' & ") in

Whether the Standard intended to disallow this may be doubtful, but the wording is ab-solutely clear that it is disallowed, and the competition was clear in requiring the provisions

examined in detail They could that a simple solution could be

best external functions.

at the to oblem of delining a full just table DINT without the use of DMOD; and I shudderedi"

problem, which is what led to my suggesting it as a compet-tion. Some entries caused the shuddering un increase, while 8. few showed that something neut is possible. The best of these is shown in Figure 1.

original DARG (to get the in

Only two competitors submitted this solution in the nest statement function, form and E10 prize is awarded to W. I. Heary of Belfast and in Pets

DINTEDSIEN (DINT, DARG)

PROGRAMMER NOTES

Judged by Dr I. D. Hill, who laid examined in detail They could down the objective of writing a nt once by divided into two He examined cuch entry with found by using the DMOD func

refereeing work for the BCS on Time trops, found MDD and Algol and Fortran algorithms, AMD there, but not DMODE Dr Hill - who works for the is nichiled, however, aming the

(the author wrote "I did ios

So did I when I first met the

This cannot really compete though, with the use of OMOD, particularly if expresses as a statement function, rather than an external function (see Figure 2)

The operations called for by this (assuming that the compile does not recognise the argument 1: ODO as a special case) are discourse, quite fudicious consisting of 1. Divide DARG by 1: 2. Take the integer part (which we eventually want); 3. Multiply by 1: 4. Subtract from the original DARG (to get the fractional part): and 5. Sohtract from the

teger part ogain).

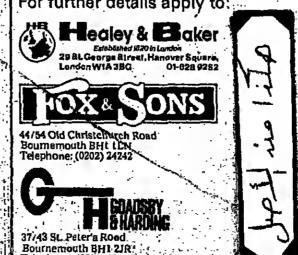
Childs of East Tilbury.

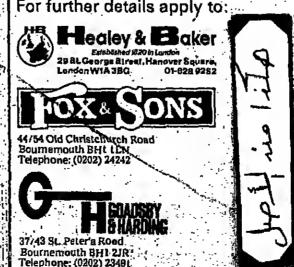
DOUBLE PRECISION FUNCTION DINT(DARG)
COUBLE PRECISION DARG, DA, DB
()NY MODE
()DABB(DARG)
DE DESEGNIT (ENGL(DA)))
DINT MOINT + DB
()CARDA-DB
()FIDA.SE.T.ODD) GO TO 10
DINT MOSIENTDINT + DARG)

DOUBLE PRECISION DINT, DARG DINT(DARG) = DARG — DMOD(DARG, 1.000)

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Clearing the air on structured programming

over structured programming is curlous blend of the old and the new. A definitive new publica-tion by the NCC should help many to achieve a better understanding in this jargon-rich field. The book, Program Design Mathods, was originally prepared in 1976 as an internal raport for NCC ataff and membera. It has now been reprinted for the general public.

The book begins with a cogent review of the background. carefully establishing the historical and practical context of the new mathods, than leads to a linking chaptar on the principles

of program design.
Subsequent chapters examina the implications for coding—"atructured coding!"—and for program development. Two approaches are then outlined—IBM's Improved Programming Technologies, IPT, and tha Michael Jackson design method. The book concludes with a discussion of program design languages, computer-based de-

sign aystems, and documenta-Complete and concise, the survey will provide for many a very useful introduction to the concepts, techniques, and terminology of structured programming. Particularly valuable is the emphasia throughout on relating the naw methods to

Other attractive features are a very clear, developmental, exposition and the inclusion of carefully chosen examplea and illustrations. Although at pains to introduce and describe new terms where appropriate, such as "structured walk-through," the book annoyingly contains no index.

*Program Design Methods, by G. B. Bleazard. 104 pp. £3.50. NCC Publications, Oxford Road, Manchester ML 7ED.

Puzzler

wizard at Draughta; The other day he bet me 50p that he could hold the draw against 12 Black Kings, using only seven White un crowned men.

I could have first move with tha Kings, but ha would specify the starting position of all 12 pieces on the board. He promised that no statemate situa tion would be involved - White would have moves avoilable at each turn, but Black would be unubla to break through the da-

After due thought I accepted the wager, and soon lost 50p. See page 45 for the young master's starting position.



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Northern Rogion of the DP rilyisinn is Ksvin Ksnnedy, proviously manager of the Littlewoods bronch at Honsywell. Dovid Crofts is director for the Southern region and ecu-

For the general systems division, Brisn England, previously director of marketing services, bacomes director of the Northern region. Miks Chivers, formerly branch mansger of the Wost London branch, which lotsr becsms the large systems branch of the old fisid sales division, is director of the Southern

Previously manager of the City branch, Poul Kirtoo succeeds En-gland as director of marketing ser-

Appointed UK salss and marketing director of Honeywell's Net-work information Services Division is Alex Lockhart, formerly monager of the Division's Northern region.

Georgo Dumper, previously mar-keling managar with Fortronic, has become asiea and marketing manager with H. G. Usher and Co, the Scottish software house and consultancy. Nigel Brucs, who was formerly a technical onalyst with Computer Application Services, has become a senior monager with become a senior monager with

manugling differing of Atomory Com-puters in Ireland.



John Cooper, until recently un account executive with tPC's cumpulor data processing division, has joined Scan Computer Typesetting

John Davia, workship manager with Klenzle Duta Systema in Slough, has retired.

Bsrnard Bonnotto, previously istabase administrator of the Open University, has inined the dutabas

Bob Williams and Miks Duff un-managers of CRL Abscus, new office in Leeds, Williams is analuc-Uon and client liaison manager, unit Duff is a anies executive.

Relevance of syniax to structured pro-gramming. G. Coleman. BCS Formal Aspecia of Computing Science Group. Polytechnic of Control London, London -Wi. 18.30.

01.7893182.
AGM/Big Brother is watching you, GK? P. Samci. OCS Croyden branch. Feirfield tigits, Croyden. 10.15.
AGM/Communications for the amelier user. Gata Processing Management Association. Bull Hotel, Germrds Cross. 18.45.

Systams analysis, art of science? Frank Land. BCS Chellenham and Glos branch. Chellenham Molor Club, Cheltenham. 10.30. AGM and visil. BCS Aberdeen branch. College of Commerce, Aberdeen, 19.30.

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IDP menagement. OPMA/CW. Control Data institute, London WT.

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Recont developments in display hard, wara, seminar. BCS Gisplays Group. City University, London ECI. 14.00.

YME/K subgroup meating. 2900 User Group. University of Kent, Canterbury. Octais: Or Spratt. (0227) 88822, ext 827.

AGM. 9CS Sussex branch. Orighton Polytechnic, Moniscomb. 18.39.

Tasting of nileroprocessor-based equipment. G. Wiggins. Institution of Electrical and Electronics Technician

Electrical and Electronics Technician Enginears. Edward Herbert Oldg, Lough-borough University. 18:30.

AGM/Cheirman's lecture. BCS Oelfust branch. Windsor Hotel, Bclfast, 18:30.

AGM/Big Brother is welching you. GK? P. Samet. BCS Manchester branch. Sam's Chop House, Manchester. 18,15.

Sam's Chop House, Maschester, 18.15.

MAY 18

AGM/Olg Brother Is watching you, OK? P. A. Samet, BCS London hunch, Café Royal, London Wi, 18.00.

AGM/Features and capabilities of oraphic micro film recorders. M. Ganleis, BCS Microform Group. NCR Ltd, 268 Micrylebone Road, London NWI, 10.00.

'AGM, BCS Guildford branch, Clavadel Hotal, Guildford, 18.30.

AGM/Future Impact of microprocessors on GP depts. A. d'Agapeyeff, BCS W lierts branch, Heath Park Hotel, Itemet Hempstead, 18.30.

Software engineering seminars—the quiest for a common factor programming notation B. H. Shearing, Dafrid University, Nuclear Physics, Lecture Theatre, Reble Road, Oxfurd, 16.30.

AGM/Programming languagos, the way ahead. Thory Hose, RCS Gaford brutch Oxford-life, 20.

Restaurant, Oxford, 18.45.

AtiM. BCS Coventry branch, Hylands

Attm. Bt 5 coverity I banch. Hylands hulel, Coverity, 19.30. Computers: conflict or co-operation? Saminn: NCC, Dirmingham Metropole: Hotel, Birmingham, 13.45. AGM, BCS, Merseyside branch, thera-bank Flouse, threembank Lana, Liverpool. Br 60.

MAY 18-19

AGM. BCS, Hampshire branch, Police a Heron Motel, Arapiteld, 10.00, Contact

Meas communications, Roger Pye. Association for Computing Machinery. Polytechnic of Central London, Lenden Wi. 18.15.

W. 18.18.

A management guide to de labase plenning, seminar. Dala Processing Management Association. Gloncester Hotel, Loodon SEt 9. Enrolmant Thresa Garnard.
8t 437 2171.

AGM/Film show. aCS. Readingbmnch. Physics Lecture Theatro, ReadingUniversity. Whiteknights Park. 28.00.

AGM. ECS. Preston branch. Waterloo
Hotel, Preston. 20.00.

MAY 22-25 Midro/supo 78. Syber US Trane-

MAY 24 :

AGM/The Chinese computer Industry.
T. J. Brooks. BCS, S Wales bronch. GRN
Sporte Club, Sloper Road, Cerdiff. 18 00.
AGM/Word processing D Kirshaw
BCS Humberside branch Wallerby Mannel
Hotel, ttull, 19 00.

Management titup meeting 18M Computer Barra Association, Birmingham Metrapole Hotel, Birmiogham,

SIA local Altergo 3-1 and the leb ated Athurs I t m tho semila of the Worter Knock-out Cop. h. of the vyoner knock-our cap, in total wall take place on Thinky May 111 at Woodlord Town's poin in Strakes, Lann Woodlord Great is a 7.40 pm kick off

Rubert Fox and Tim Whiteh teen appointed senior systems a lysis with Control Data. Con. p. viourly with Ronk Xeros, joint applications support group to Wilklins, who was formerly to chal, pour the professional see

Francely with IBM and Bug Actosphice, David Fielh become systems analyst at t'IX'.

Denis Urassington, Roy his, John Lillian and Ever Green ba ulticil Wespier us salesmen be inglish crevers inth sides ala 'rittines, Cheshire and New Wules, Prater Jukes North-We i pudes and the tiome Count Cilitan's nica to Sculland agoth outhernmust countles of Eagle and Green is resumnsible for in ambin and the Eastern counties

Ayan Clanamund has left Bet ness Computers Ltd where here mblicity manager in jois Dec Recording instrument as manage marketing communications bis Morley, lormerly UK gintal manager of theyekn Etectionks, & luned DRI as international sis and operations manager.

John Elmitt, previously a disc manager with theoreti, has been Northern aren sales managerla data products with Nollon Cos

Human Choice and Computers

Till: Program Committee and West ing timup 9.2 of the IHP Second Conference on Haman Choice as Computers will be meeting at the Nuthinal Computer Conference Anabemi, California in the Sir Peto vai Room of the Sheratun Anshen Bolet The Program Committee all met at 9 In om on Wednesday, Just and the Working firmy at the

The HP Conference is scheduled tof take place on June 5 8, 1979, fa

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GOT A NICE MING TOIT!

MALCOLM PELTU REPORTS ON THE ICL USER CONVENTION IN EASTBOURNE

Weekly that ICL would do all It

could to encourage DME users

to switch as soon as possible to

VME/B or VME/K, the 2900

operating systems. He pointed

out that users foced with the

inevitable costs involved in sys-

em conversion are at their most

vulnerable to competitive manufacturers and that the

DMF users were still eccentially

Dr Alty predicted the "death

of the 1900" within Ien years.

Over the next four years, he said,

the picture for 1900 users would

dent suppliere would be offering products, particularly software

systems, to the still large cus-

tomer base and 1900 users would

good because many Indepen-

In that pre-transition period.

1900 users plea for a 'golden bridge' to future

eslied for a model, such as a

2040, to plug the gap between

sition side for 2903 users.

network standards.

association.

the 2903 range and the 2950 and

He also asked for a commit-

ment from ICL to international

ICL marketing director Peter Ellis emphasised ICL's commit-

ment to 1900 users for at lesst

seven years (see front page) and

commercial director Peter

Simpson said he would be fol-

lowing up Dr Alty's suggestion in detailed talks with the user

Throughout the convention

That was why so many users

But Dr Alty and Ed Wilson,

who had experience on early

Computing Agency, emphasised

that DME only delayed the time

complex conversion problems

than System 4 users because the

1000 has a 24-bit word structure

whereas both 2900 and System 4

On the transition aids ovail-

blo. Wilson said that the 1900

File Conversion System offered

by ICL required careful pre-

planning to ensure data descrip-

McCahe praisad the 1900

Cobol source convarsion system

offcred by ICL as being "vcry

pleasing and bug free". But he

criticised the System 4 Cobol

conversion system becouse it

waa slow, full of bugs and could

not handla the library COPY

tions are accurate and can b

have only a few years left in which they will have a sufficiently powerful voice to significantly influence ICL to provide a "Golden Gste" bridge the provision of adequate tranto the future rather thon s "Bridge of Sighs".

Summing up a consistent theme throughout the 1978 ICL User Convention in Eastbourne - the need for ICL to give priority to easing the transition of its existing customer base to the 2900 series - Dr Jim Alty. director of Liverpool University computing centre, called on ICL to consider with urgency the provision of improved 1900/2900 transition aids.

And he warned 1900 users not many users expressed their to gain a sense of false security satisfaction with 1900 systems, over the next few years when now that the software has selt-ICL and independent suppliers lad down.

in particular, Dr Aity asked had greeted with relief the an-ICL to show a more sympathetic nouncement last year of the attitude to allowing the connection of non-ICL devices to the enables 2960 and 2950 systems to 1900 and to ensure, as far as run 1900 workloads unchanged. possible, that new peripheral devices for the 2900 are also available to 1900 users. 2900 systems with the Central

He pointed out that 2903 usere are in a similar position to 1900 users because the 2903 mlcrocode currently runs 1900 soft- for eystem conversion to 2900 or ware, even though it has s some other system.

after the source program conversion, logic errors were likely to

are byte machines.

THE transition from existing machines to 2900 will cost a great deal of machine time and Wilson pointed out that 1900 users were foced with more money, and should not be confused by attempting to alter the systems at the same time.

That was the clear message of a talk on transition aids given by Ed Wilson, who is currently working for the Inland Revonuc, and Alan McCabe, of the Central Computing Agency.

Both emphasised that the nlm of transition should be to change systems with the minimum of alteration to dota structures and program logic. It was necessary to keep the system's program and dota structures unchonged in order to provide a yardstick against which to judge the correctness of converted systems.

They also stressed that data and programs should be altered in parallel. If data was changed

A MEETING la to be held shortly

between ICL and users to dis-

which could be written into

service expected by the user. He accepted that it would be

Defining level of service taken - uptime, reliability and resillence ratinga, benchmark performance tests, etc.

cusa recommendations by an ICL CUA committee that all But he believed that, working users should have "ser-viceability agreements" in conwith ICL, some mutually satisfactory arrangement could be tracts to dafine the level of aervice they expect from ICL.

David Kelson, a mamber of the positive response the CUA report had received from Bill the CUA executive council, told Downing, the manager of Com-mercial Control at ICL. Computer Weekly that the alm of such agreements would be to

sct of performance criteria all usera should examine tha benefits of having serviceability contracts as a definition of the agreements and suggested to users that "the first and most important task is to identify difficult to define such standarda ypur objectives in terme of the because there were so many dif-availability you raquire from ferent witeria that could be your system."

-Eastbourne briefs-

ABOUT £3million is baing invested by ICL in creating a £800 implementation of VME/K until after release K\$V16 next February. Title release, written to new tems progrems are portable between VME/K, and VME/B. The tween VME/K, and VME/B. The CTM was first mosted when the 2500 was still in an embryonion New Range phase, but faded with the emergance of VME/K to a different design than first envisors. Peter Ellis that ICL is to make segod for the 2600 range of available soon an politic operating systems.

Qualified user satisfaction with VME/B

AFTER Initial performance pro-blams with its 2970 under VME/B, W. H. 9mith is now "fairly happy" that the system is on the right path for prouiding an effective "usable" service. But the Remots Job Entry facilities of VME/B and the latenses of some softwere dsvelopments were criticiand.

According to Gavill Caytor, Smith's computer mnnnger, the mein improvement offered by the 2970 over the 4900 series is in its date and lite handling capebilities. For programs written from acratch in native mode 2800 cods, Gnylor sold that the 2970 pera straight Cobol-to-Cobol conver sion from 4900 to 2900, the 290 programs that had been converted from 1900 Plan to 2900 Cobal.

the 2000 took up about 7% of th copecity of the 2970 whereas similar system took oves 30% of the capacity of the 46049.

Improve facilities for distributed processing

adequate distributed intellgence systems, ICL must prove the Remote Job Eniry facilities of the 2900 and should recognise the 2903 range as inelligant terminals in their own That is the view of J. J.

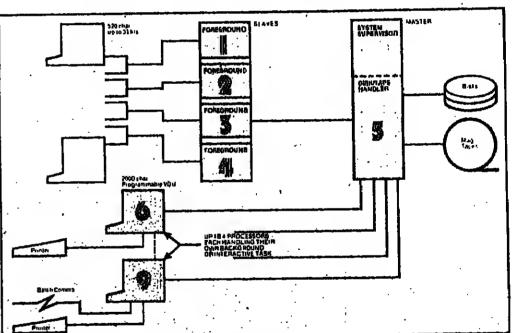
also remain a key concern of Villiams assistant director of finance (computer-services) But after about 1982, the with the Severn-Trent Water numbers and power of 1900 Authority which is based on a users would quickly diminish. 29**6**0 and nine 2903s.

Having praised the performance, reliability and user scceptability of the 2903 systems to date. Williams said that the authority would not be able to achleve full benefit from the system unless ICL offered come mproved capabilities.

He sald that there had been better RJE accesa to an IBM 370/158 at Compower which the authority used on a bureau basis. Fallute to Inform users of line problems and difficulties in also criticised 2900 RJE.

Williams sald that ICL's cu rent terminal philosphy wa baced around the 7500 serie processors, but he would like see the 2903 having th capability of acting as a concer trator through which termina could be directly connected large mainframes.

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The PDP-11V03 is a complete computer system with between 32k and 56k bytes of memory, dual floppy disk drives, hardcopy or video terminals, RT-11 operating system plus a choice of languages. The PDP-11V03 is easily extended to support multiple users, and there is a wide range of hardware options—floating point, real-time interfaces, synchronous and asynchronous communications and cartridge disks.

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Designed for on-the-spot interactive computing and backed by a vast library of software, Digital Equipment's small systems need not be limited to a single task. The more you use these systems—the more you will realise their potential.

The PDP-11V03 and the DECLAB-11/03 brings computing to you at a price you can afford. For the Small Systems Facts File 'phone David Watt-043871 5202 (24 hour line).

Small Systems Sales Dept., Digital Equipment Co. Limited, The Hall, Church Street, Welwyn, Herts., AL6 9NY.

Shape of computer games to come

pundits are now predicting that keeping up with the Joneses will entall buying remote contrul model cars, and hund-held cumputer games. There are indica-tions that the model cars will use derivations of the ultrn-sonic TV emote control units.

In the hand-held computer games area, one has niready appeared in the US, though it will not be sold in this country, The toy is called Merlin, and It is eing sold by Parker Brothers, a achusetts-based compsny. The company first entered the computer game marketplace last sutumn with s game called "Code Name: Sector."

Merlin looks s bit like n telephone handset with pushbuttons between the mouthpiece and earplece. In fact, the nachine does have s spesker in It and It makes about 20 different noises as you play with it. In-cluded in its sonic vocabulary is musical scale that enables you to play tunes you have com-

Delicatessen in personal hardware

A NEW computer etose, Syta Shap, opens this weekend in London and promises to be London and promises to be something of a delicorossen in personal camputer hordwore.

Springing out of the DEC OEM house, Computer-Aldod Systems, the Byte Shop has, in foct, nothing to da with its fomous US namesake. It will, according to Sill Cannings, "sell just obout onything in personal computer oquipment that can be sold through a retailer. Wo won't be handling just one product line."

duoi lino."
Among the monutootusose that will be bondlod initially oth Cromomoo, Dynobyts, North Stas, South West Tech, Applo, Smoke Signol Groadcasting and the Commedose Pst.
The Byte Ghop is at 420 Cranbrook Road, Gents Hill, Ilford, apposits Gants Hill Tute station and opens for business officially on Onturday.

Errors in digital design

THAT fundaments srrors csn be made in the design of digital electronic circuitry has long been the view of tvor Catt. Now, with his colleagues David Wal-ton and Malcolm Davidson at CAM Consultants, he has published a book on his theories simed at that fying aspects of this important subject.

Callad Digital Electronic Dasign*, the book axplains their views on such subjects as earthing in digital systems, interference from the mains, the distribution of DC power to logic and the interconnection of logic A sound knowledge of what is already standard practice in digital design is required to appreciate many of the technical points being mada in the book.

It daes, however, mark a fundaniants bresk with current digital concepts which, seconding to the authors, depend lar-gely on analogue theories. Their approach is to return to, and update, the electromagnetic theories originated by Oliver Heaviside et al when telegraphic communications was a new

*Diglial Electronic Dosign by Catt, Walton and Davidson, PP127, 88; CAM Publishing, 17 King Harry Lane, St Albans, Herts,

uses the sounds in its six pames, talking to you like Harpe with his musical instruments.

In addition to the speaker. Merlin has a control panel with 15 keys, four used as a system control and H. numbered ti to H. for hamiling data. All the keys are pliable plustic membranes, actuated by a light trutch. The 11 data keys have transparent centres, revenling t.ED lamps which

To play with Merlin you press the "New Game" key unil a number from one to six. The machine's repertoire includes: Tic-tac-toe, which it plays poorly; Echo, in which you tell Merlin how many notes to play, which it does at random, and then you try to duplicate the alevice will retail for about \$33 in little tune; Music Machine, in the US.

Square, a visical game that conices von to manipulate a pattern of LEDs until you get the vinning confunction. All of these games have been amerzed into a single 1MS100 from Texas Instruments. The thip has a 2K mentory, double that of the minimum TMS1000 costs of the game are a seer, but are believed to be in the \$100,000 range Whatever the cost, Parker Brothers is almost certain to securer them as the

back, up to 48 notes or nests at a

time, Mindbender, a kind d

Master Mind that involves your

guessing an o-digit number que

pick ar; Blackpack 13; and Magic

If you thistle WONE BESTA found the most cost effective key-to-disc system from the world's leading supplier, and it's not from Inforex, well..

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think again!

l Liegze seu	ប្រាស់ ស្រា	that in fe	oilsanto	រណ៍ទៅ ពុធ ព	ax key-tu-disc
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Address	17,			and and a later of the	and the second second

Security and safety neglected—survey

nfficer does not wish tu get in-

volved in DP matters, other than

by putting n lock on the door

and setting up a guard service

which may by-pass the machine

On fire procedures, Duffin ac-

knowledges that the computer

room has particular require-

ments. Operators' fire proced-

ures might need to be different from those followed in the rest

nf the building since they must

include powering down the mschine and storing topes ond

But he emphasises that such

procedures should be planned

only in close liaison with the

company's fire officer. As with

security, that communication is

security system at all, and any-

one and everyone is apparently

welcome tu pay us a visit nny time, day or night."

The computer room is described:

resembles s tomb, huving no

little fire-fighting equipment The floor is never cleaned and is

littered with unused stationary disc packs and blank company

And on staffing:
"The small staff of aperators

envers two shifts and overtime

sickness or overtime, no cover l

provided and a single aperator must do the work of two

regardless of the length of time

"The facilities avaliable tu us

are virtually non-axistoni. There is no rest room containing the

fabled fridge ond cooker, which

we understand some privileged

operators have access to. The

coffee vending machine rarely

through incorrect editing, it can be corrected through the

operating system rother than

"Secondly, space lines may

be left belwean 'ENDMAC'

and 'MACDEF', which also

eases the reading of the

having to do s msnual run.

Finally, facilities:

windows, no fire ninrm and very

'The innchine room closely

generaled by the computer en-vironment survey carried out by Opcomm, the operations group centred in Coventry (Op Spot, April (3). It Is in this context that Bill Duffin, physical security adviser, writes to Op Spot.

"I was pleased to see that the Opcomm survey showed what some of us hove been trying to say for years — that basic-security, fire and safety requirements are not met ut many

computer centres," says Duffin.
DPMs are often blamed for any shortcomings in these nistters, but Duffin, who views the situation from a different angle, feels that company specialists in these fields are too often reluctant to become concerned with the DP department, with ex-

often missing.
"Eventually," he continues, He goes on, "In many cases I "the DPM innds the whole thing

and what it means at one installation

we isughingly refer to it, is situated soms 500 yards from the computer centre, and so the operators have to wheel u trolley across an exposed yard ond into

So snys an operator making ome startling revelations' about his installation in a letter which is amusingly written in spite of its serious content.

He continues, "Once inside the warehouse, our intrepld operator is confronted by a inlature Everest. The unlucky chap must then muke a brave bscent to the tup of the mound and drap the required stationery dawn to his occomplice." He mantions the tack of con-

sideration given to first aid.
"Extru spice is udded to the stutionery department indventure when it is undertaken outside of normal office hours with the knowledge that there are an trained first-alders or first-nid supplies on hand in case omeone should fall ur be hit by a box of stationsry." On security at the centre:

HINT OF THE WEEK More Macrolist ideas

THIS week, three further hints relating to the listing of the George 2 Mscrofile. They are from B. Miller, s project mansger with RHP Bearings of West Yorkshire, who has airsady contributed to Op Spot on this inpic (CW, April 27).

He says, "Thrse other ideas which may prove useful to anyone using George 2 are: which undates the Macrofile

'Firstly, put the macro as the first in the file. The benefit of this is that should the Macrofile become corrupt

"Thirdly, by using the hash (#) comments may be inserted into the Macrofile, and they will then be printed but not processed. Under Georgo

2 they may be placed any-where in the file." Come and exchange views

THE DPMA meeting planned for Tuesday, May 17 provides a rare opportunity for the exchange of liber format with a views between operations staff

Operators often complain that nobody listens to their point of view. Well, Op Spot is listening and Semand Allen would like to

and Barnard Allen would like to hear your opinions and ideas on all matters relating to computer operations.

Your latters should be sent to Op Spot, Computer Weekly.

Donest House, Stamford Street, London SE1 914. Telephone calls are equally resisons and Barnard oan he ountsored directly on 07-261 8035.

The meeting will have a flex-'lble' format with a panel of speakers comprising operations staff and DP managers. Opera-tions staff taking part are Ron Linton, computer operations controller at Manchestar Pply-

technic; George Stevenson, contract operator; and Mike Rees and Dave Charles, of

The vanue is the Control Data Institute Walls Street, London W1. Light refreshments will be available from 8.00 pm to 8.30 pm, after which discussion will go on until about 8,00 pm.

partment who, without ony budget, is expected to become

Two move to on expert on security, safety and fire, overnight." He considers that security, fire Nigeria and safety requirements are closely related and should be

TWO operations people employed by Richard Costnin Ltd have muved from the company's London site to take up positions at a new Costain in stallation in Lagos, Nigeria. For George Otto, who de

order of priority.

"At this stage standards are drawn up, staff trained in-house and finally on on-going security parted on May 2, the move ineans promotion from operations manager to DP manager. Mike Collins, who has already .programme agreed. "Please let us cut out some of been in Lagos for several weeks, the wonderful theories drawn up is operations manager.

2900 TRANSFER

Highlighted at the ICL Users' Convention at

Eastbourne, this conversion facility developed

by the Post Office translates files produced on

Translation can take place either as a separate

process or during normal program running.

This tool is available through NDPS-'phone

NDPS, Tenter House, 45 Moorfields, London EC2Y 9TH

year.

See page 15

01-432 9258.

National

Service

Data Processing

ICL System 4 Into 2900 format with remarkable

treated as such. "To be restly

effective the whole package

needs to be thought out casefully, with riaks identified

and recommendations listed i

The all-Nigerisn operations by 'experts' over the past few tesm will have no computing years and let us get down to experience ond Costain, aided basics. A gnod 'no frills' proby ICL training personnel, will gramme will protect staff, data ond maybe even hardware — provided the staff are involved," give them courses in computer appreciation, hordware and says Duffin.

IBM retains its grip THERE is no sign of IBM's grip large number of very old on the world general-purpose computer morket slackening, according to IDC's estimate of the values of the installed bases

December 31, 1977, IDC, which applies a stringent current marel valuation to installed machines, gives IBM 71% of the market, followed by Honeywell

The value of IBM's bose can be assumed to reflect large numbers of 138s and 148s delivered over the psst yesr, while Honeyweil's base includes n

of the major manufacturers as at

system caused confusion THE two-year-old computerised? rent collection system used by Manchester City Council is

confusion among tenants. "The print-outs were issued sccording to the period at which each tenant paid," explained Councillor Allen Roberts, chairmsn of the City Housing Committee. "If it was fort-

being modified following pro-

blems in the print-out of state-

ments which resulted in some

Burroughs Control Data NCR DEC Amdahl Council's rent collection

Honeywell

machines, whose value is there-

value of

the tenant had paid, so they ware indicated as being either in arrears or in credit. It has caused some concern, especially to the older people who don't like the idea of being in debt."

The problem should be solved by October when the print-outs, prepared on an tCL System 4/72,

Myanced Systems and Programming Division Advanced Systems and Programming Weston
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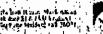
and Programming

Real Time/Data

Minicomputers and Microcomputers C Operations

Data Base

O Structured Design





Japanese invest £2m in viewdata system

THE Japunese PTT Nippon
Telephone and Telegruph is developing a viewdata system to bandle the Katakana syllabary.

but page store in the receiver, and adaptors are expected to cost about £250.

The system will be able to reports the French paper Elec-tronique Actualités.

NTT plans to invest over £2 million in the system for hardware alone. Software development will be financed jointly by NTT, broadcasting authorities and information providers such

Trial of the aystem, called Captain, for character, pattern and information network, is due to begin at 1,000 subscriber sites

The complex Japaneae character set will require a 64K-

The system will be able to handle 3,000 different cha-

Payroll service

A NEW payroll system called Payfact, put Into service last month by Computer Management Group, Is now used by more than 100 companies with a total of over i1,500 employees. The system runs as n bureau service every night of the week at all CMG's data centres and costa from £i0 per payroll of 40

user freedom

From front pege

EEC leads on

the Conference of European CUA and, at the end of last month, it organised a conference in Paris on standards.

He said that the Commission was seeking user help in three main areas; standardisatinn, software portability and transnational applications. And he suggested that European users are likely to submit to the Commission recommendations on terms of contract.

But unless there was some financial help for users working on committees concerned with topics of international and national algnificance, the out-come, he aald, "will be a mere fraction of what could and should be adhleved

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everything about technical drawing, without wasting computer

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LETTERS TO THE EDITOR

Layman needs to be better informed

ournal such as your own shured my views on this subject.
I was recently invited to open

discussion at the institution of Electrical Engineers following a paper presented by Sir Ieuan Maddock on "Electronics — the challenge of the future", in my the "Horizon" programme in much the same terms as your

I WAS very interested to read leading article. My statement Computerview and not a little was subsequently heaty contcheered to find that a resunns-ible and reputable professional present who thought, mistakenly, that I was including the technical press in my condemnation of the only too popular "doomwatch" approach to tech-

noiogicai innovation. We in NRDC are both constitutinnally and persnunlly dediented to the promotiun of inremarks I referred apecifically to vention and innovation generally and to advances in electronica and computer appllcationa in particular us being very much in the public and national interest at this point in

Regrettably, it is only too eas to speculate on the sociological and ecological problems the could arise if the pare of change were dictated solely by econocic pressures. Fortunntely, this is most onlikely to be the case, but in our view the public interest will not be best served by faciling the large degree of apprehension or prejudice which surrnunds a subject on which the layman needs to be much better informed.

W. MAKINSON Mnnaging Director National Research Development

Reducing cost of labour to create full employment

reducing the cost of labour to create full employment, ns discussed in your correspondence columns, it is worth pointing out that the general principle behind such policies has not yet been given sufficient consideration. For exampla, no such policy was considered by Barrie Sherman (Futureview, February 23), evon

suggested a further dosa of the Keynesian solution with the lowering of workers' standard of living at a time when technuso for outside orthodox logical change is making inrgo increases in real wealth passible. t does need to be appreclated, however, that the prosent phase of technological change is likely to bring a fall in the real value of labour, just as happened in the first industrial revolution.

Owen and wall expressed by his aon: "Will any man who standa on his reputation for sanity that he is now a uacless encumbrance which they cannot afford

technological change can bring couraged. large proportion of the population cannot live by the sale of their labour alone, and they should not be expected to do so.

This should not meen thet their labour (which can still have a significant value), should be wasted in the dole quene. where they are denled the opportunity of raising their standards of living and enjoying the sense of satisfaction that a

BEFORE discussing the details jnh can bring. Both national of the different methods for wage and labour subsidy policies promise to avoid such waste and consideration. I hope Bartle Shermun and his research team will he among those to do this. With regard to the distinction

between a national wage (as suggested by Juliu liarris and D. J. Graver) and labour subsidia. connect sec how ony major difin the form that Keynes pro-posed: reducing real wages by ference enuld arise in the long run, except that the former Naturally, I would have been anocked if Barrie Sharman had suggested a further deam and had wage, perhaps giving it a heller, image. This may well be importeconomic thought, the short-term advantage that labout subsidies have nf enabling the raising of expanditure taxes without raising prices, make them nore imposituted interesthem ninro immediately interes:

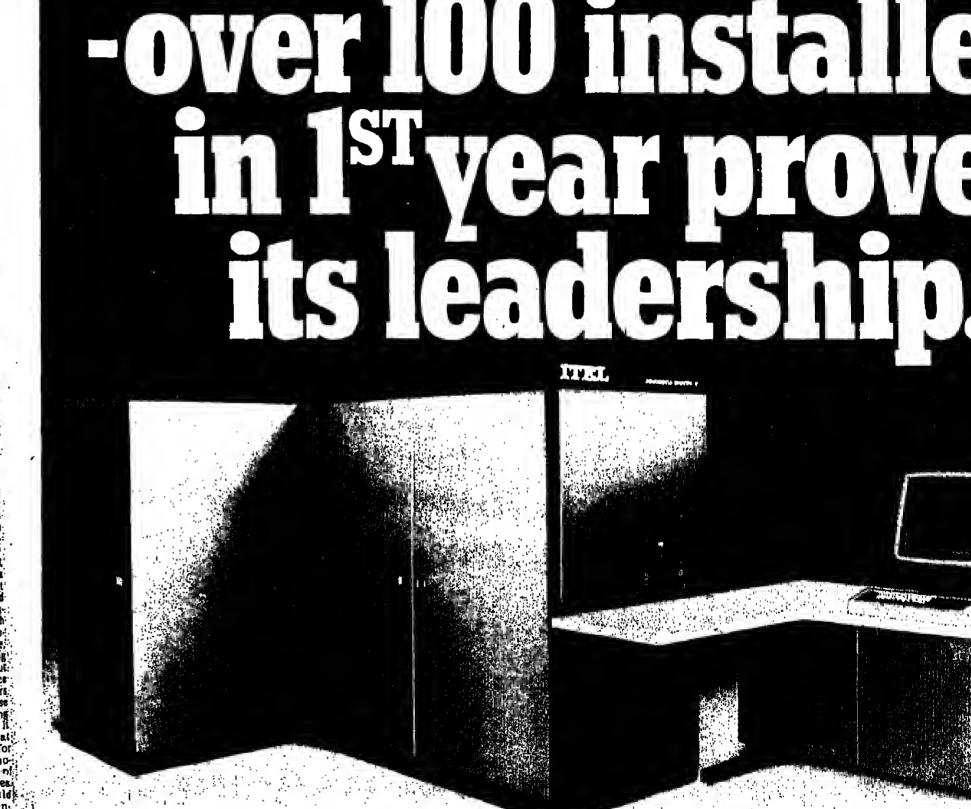
labour, just as happenad in the first industriul revolution.

This point was well understood at that time by Robert Owen and wall expressed by his aon: "Will any man who stand on his reputation for sanity affirm that the necessary rasult of, over production is famine; that because labour producas mora than evan luxury can waste; labour shall not have bread to eat? If wa can imagine a resources, (incidentally, others necessaries and comforts of life should be produced without human labour, are we to auppose that the human labourer is then to be dismissed to be told that he is now a useless encumber of logy which enable a saving of the new microprocessor technology which enable a saving of logy which enable a saving of the new microprocessor technology. logy which enable a saving of both labour and other resources. o hire."

Such applications should to me the message is simple:

obviously be greatly end.

If it is true that the problem of unemployment can be solved by reducing the cost of labour (and it has yet to be shown that it. cannot) and if the new technology can take much of the drudgery out uf life then will should all look forward to great benefits from this next industrial



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5 and 6) directly comparable and software compatible with

To find out more about the Advanced System, ring David Addison, ITEL (UK) Ltd, Tel: 01-741 1482 or David Harmer ITEL International (Europe) Corporation, Tel: 01-584 5050.

IBM (148, 158, 168, 3031 and 3032).

performance over all other systems.

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Advanced System

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time. It also knows about scale and measurement, so it just needs a firm base to work from and

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Find out more about automated drafting! Ring or write for Envoy data - it pays to find out

the rest falls precisely into place.

about CIL.

Hotel system links up office functions

A TURNKEY hotel manage-ment system has been installed in the 850-bedroom Tura Hotel in London by Cara Consulting. The real time online system, Data Host, was developed by Sigma Data Computing Corp of Rockville, Maryland and uses hardware supplied by Four-

The Tara Hotel and Cara are both owned by Aer Lingus, the trish airline. The Tara is the first hotel in Europe to be equipped with the system, for which Cara has a distributorship agreement.

Data Host automates both "front-office" functions — such as reservations, checking-In. Lingus in 1972.

Plessey wins US contract

THE news that Plessey has been awarded a contract, in collabotions and counter accusations ration with Collins Radio, to provide radio equipment for the US military, has been agen in some quarters as a consolation prize fur its loaing out on the two-year battle for international approvni of an aircraft micro-

The struggle for MLS approval highlighted what could hecome a growing problem in de-

and account preparation - and "hack-office" functions such as payroll, general ledger, and management reporting.
The telephone bulling system

recorded automatically by the

system. The cost is then com-outed and added by the system

sultancy, software and systems

house division of Cara Data

1966, the company became a

abounded about false computer

shnulations of extrapolated test

the US simulation that "proved"

the Plessey doppler system

would not work at Brusaels

sirport. Plessey, with the British

Perhans the classic cose was

Cara Consulting is the con-

to the customer's bill.

US multi-netional, Litton Industries, and west German group, Dishi, will result in Litten subsidisry, Triumph Adler, ecquiling the Dishi Datensystem company, which makes and selfs very small computer and office systems. In return, Dishi group will get 12.8 % of Triumph Adler's parent, Triumph Werks Nürnberg, with en option to incresse this to 25%. Triumph Werks was 95% owned by Litton, whose is a good example of the scope of the system. Calls, dialled directly by a guest from his room, are

Anather Dight subsidiery, Computer Tech-nik Müller, which builds end sells up-market business computer products is involved in the agreement to the extent that Triumph Adler gets merketing rights to CTM products, which slot nostly nhave the office computers in the

Triumph Adler acquires Diehl Datensystem

TA product line.
TA will also collaborate with yet another Dieht company, Eurosil, which monitorities

Monawhite, under n separate agreement with the US firm, Portue, Triumph-Adie it is namedoctors under liconco the Pones Xia distributed processing system and self it the TA-1540, butts directly and through ilera. Portoc nitroutly lias an nurdeniant w

CDC chief hits out at US policy Processing. Formed in Eire In wholly-owned subsidiary of Aer

Im Liz-call me on

NEERING LTD

between Control Data and the Romanian government are to be established, but Control Data chairman. William Norris. blames the US government's export policy for the poor performance of the exlating Romcontrol Data venture which builds printers and other

"After encouraging our-efforts to establish the joint long delayed licences to export the required technology that same of the products were out-

the CASE alternative

dial-up modems on immediate delivery

As a result, the venture remained unprofitable for three

The new agreement with Romania runa for 10 years, and covers establishment of a local data services company, an R&D centre for applications software, procurement of CDC computers. rights to manufacture certain computers in Romania, and to assemble certain peripherala, and joint reaearch and develop-. ment undertakings.

pleaded gultty to violating US currency regulations and

ldentifled foreign gavernment company was fined \$1,001,000 and ogreed to pay civil penaltles

ICL shares gain strength

THE Stock Market has shrug-ged off the resignation of Cenff Cross as managing director of ICL, and given new man Or Chris Wissan a said vote of cantidence.

ICL shares, which stand at
180 pence at the end of

Movember, two weeks after Cross announced his deporture, reeched 278 pence this week The strong ndvance in tCL's

been drifting downwards.

Brakers and analysis like the fact that the tast dividend was onvered five times by prairs, and look far a 20 to 25% advance in pre-tax prairs for the vance in pre-tax profits for the year to September 30.

Ferranti sets up three new companies

Three-new companies are to buffers and a powerful process formed by Farranti to act as (CW, September 8, 1977) sales agencies in these areas.

Ferranti Computer Systems DISC drives with copacities of Wythenshawe and Military Systems Division, which produce equipment based on the F1000 and Argus minicomputers. togethar with the F160-L microprocessor. The new company will also be responsible for sales by the Special Components department. Its managing director will be Peter Durey.

Ferranti Electrunic will take sales responsibility for the Electronic Components Division, which manufactures a wide range of semiconductor devices, including the Flort. Munaging director here will be Alan Shepherd.

On the instrumentation side which includes aircraft and weapons equipment, the new company will be Ferranti Instrumentation, with Lester George as manuging director.

MEWS IN BRIEF

Joining the operator game

FINDING "operator of the year appears to be quite a popular astime newadays, and World plex has joined in the fund organismy a competition to dis cover the best operator of this word processing system. More than 300 pirks have been

invited to answer nine question related to the use of the com-pany's wordstations. The whose will receive a £150 prize and three runners-up will get 🖼

The awards will be made a the International Word Proces sing Exhibition at Weinbley of

TALKS between Offretti and Stack have culpituated in tillvetti becoming a partner it the components specification and hulk patchase company (CW, May 3) The company based in Frankfurt, was forme three years ago by Control Data ICL, Nixdorf and Plessey, to lruw up specifications for semiconductor components required by all the companies and to gain the hearfits of bulk purchase orders from manufac-turers (GW, March 20, 1975)

86800 for ICI

CONSULIDATING its position as a major mainteame supplie to several ICI divisions, Burtoughts is to supply a large scale, Mindle maintening to the Plant Protection division at Fernhurs near Huslemere at the end of the year, It'l Plant Protection cutrently runs a 133700 and 12700 at tho sile, and his recently placed a supply order with Nixdorf for multiple 8820 in altigent terminul systems for metallation all over Europe (CW, March 30).

Faster access

TO speed access time on its IBM comparible disc subaystums Memorex has introduced 2 THE policy of decantralisation cache memury called the 3700 in the Ferranti management which uses charge coupled deatructure being pureued by cless to store frequently used managing director. Derek Alundata, it can have between one and is Messey as of ECD. An cover the company's computer other IBM compatible disc supingtrumentation and electronic cache memury called the 3700 which uses charge coupled to place the store of the company's computer. The company of the company instrumentation and electronic cache memury called the 3700 which uses charge coupled to place the store of the company of the co

will handle sales for the Digital 63.9 and 128.4 Mi-gabytes have Systems Division and the been introduced by 183M for use? with the System 34. The previous maximum the capacity ? was 27.1 Megabytes

EPSS open day

EUROPE's first demonstration of a public packet-switched selfvice will take place on June 26.3 when the Post Office and 33 g users of the Experimental Packet Switching Service tort operate in holding an open days

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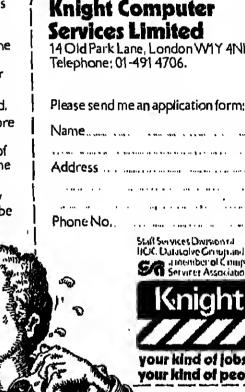
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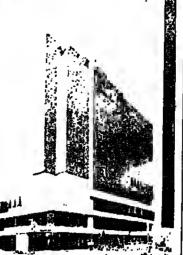
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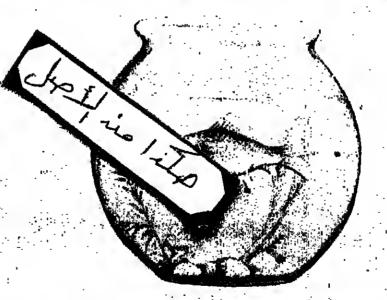
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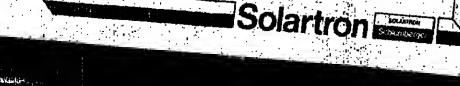
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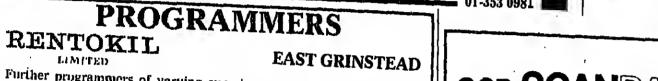
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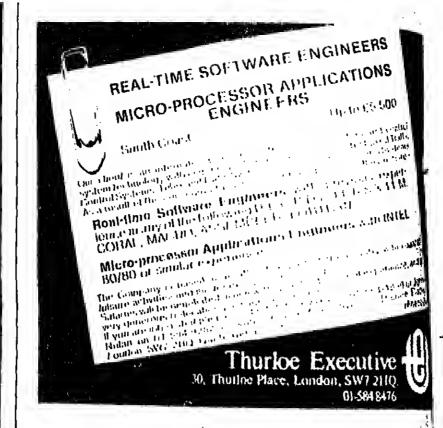
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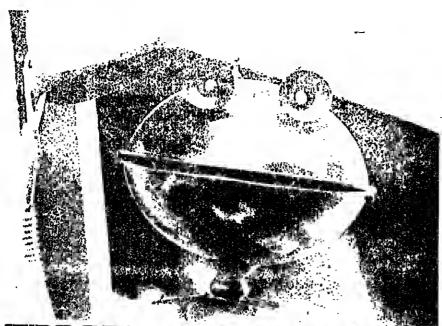
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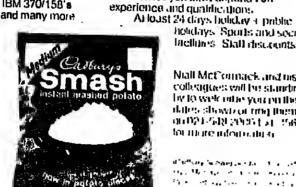
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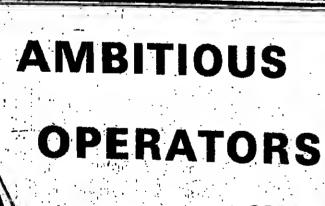
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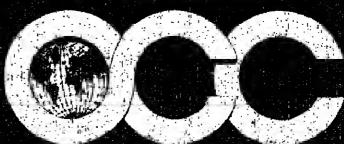
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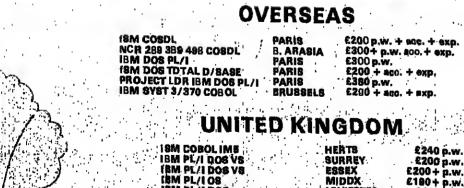
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Responsibilities are for the deste base, access, access, access, access, access, and the initial physical structure of the date base and as a consequence, establish the date date base and as a consequence, establish the date date base and as a consequence, establish the date date base and as a consequence, establish the date date base and as a consequence, establish the date date base and as a consequence, establish the date detainery, define entry standards, date protection and facilities systems integration. Background must include business analysis, systems design and programming, with dictionary assumbly and design and programming and programming and programming and programming and programming and programming analysis. logical structure of the dete bese end es a consequence

> Please apply as soon as possible enclosing full career and personal details and salary history to Mr. A. G. Boyd, clo The Chief Lividon Minager, The Commercial Bank of Australio Ltd., 12 Old Jewry, London EC2. All applications will be treated in the strictest confidence.

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Removal expenses, disturbance and lodging allowances and assistance with housing are given

Act now - include eppropriete beckground deteils end indicete which position interests you in your letter eddressed to the Heed of Computer Services, County Hell, Kingston-upon-Themes County Hell, Kingston-upon-Tremes, KT1 2DN, or phone 01-546 1050 ext. 3479 for more informetion, Your epplication must be received by 26th May 1978.



where appropriate. There's also the advantage of flexime working. Membership of the staff duberautomatic and free - here you'll enjoy a fragain t activities range from snooker, clarks, squash, francis and badminion to disco's and drama productions. There are also altractive restaurant facilities. Appointments immediately available are.

Software Specialist up to £6,382

Internal promotion is the reason for this job. If involves working with UNIVAC software such as EXEC8, CMS and TIP, plus advising the Development Group and Operations Support Group and developing in-house sollware. UNIVAC experience is not essential but you must have exparience of any major manufacturers' operating systems and communications software.

Lead Programmers - up to £5,350

You will assist Senior Programmers in design/specification of programmes and lesting critical functions, 3 years' experience plus knowledge of COBOL is required.

Programmers · up to £4,900

If you have at least 15 months' COBOL experience you'll start at a safary linkert to your achievements so far - but the career schemo gives opportunity to move fast through the salary scales

SENIOR SALES

Basics to £7.000 + 12 month Guarantees Quota c.£13,000 + Car or allowance

Distributed Intelligence/Communications

Applications are invited from established professionals with proven records of seiling enecessfully against budgets. Sound commercial experience in the mini/mainfrante industry and good applications experience in teleprocessing environments are particularly useful. An excellent starting salery package will be paid to successful candidates and an exciting future is assured.

Reference CW/IS/I

SNR. SUPPORT ANALYSTS

To £7,000 p.a. + Car

Teleprocessing/Communications

The emphasis is on a high technical level of teleprocessing and/or communications experience gained in commercial environments. The jobs involve pre sud post saids energyls and a high percentage of client listson and sales support work. Applicants will be metura with the confidence gained either from holding responsible positions in user environments or in similar support roles.

Reference CW/15/2

Vacencies exist in these areas: London and Home Counties Birmingham and the Midlands Busiol and the West Country Manghester and the North

Applications will be treated with the strictest confidence and should be made to BOB BOWER, Advising Director.

HIGH PLANT OF THE PROPERTY OF

MARKETING MANAGER

Accounting Packages

Computer Service Industry

Basic £7.500 + Bonus £1,500 + Car

West London Based

Our clients ere a leoding name in the computer service industry. Acquisition, expansion and development have dictated that they recruit a Marketing Manager to create marketing atrategy for accounting packages with perticular amphasis on firms of professional account.

Other useful experience could be a knowledge of commercial banking and it would be adventegeous if candidates have had direct sales experience at some time. A £9,000 salery package plus a company car will be provided and the future of a successful applicant is assured with this highly professional organisation.

Reference CW/15/3

PRODUCT LINE MANAGERS

Mini Computers/Terminals Basic to £9,000 + Expenses

Usual Big-Company Benefits

Central London Based

Our clients ere one of the World's largest mini computer and terminal manufacturers with an excellent reputation in the communications and distributed intelligence merket-pleces. They require two Product Lina Managers, one for their mini computer equipmant; and the other for their range of terminale. These Managers will have total marketing rasponsibility for their designated product lines including forecasting pricing, monitoring and training. Naturally it would be expected that suitable applicants will identify closely with the product lines and the job specification.

Reference CW/15/4

Interested applicants should telephone BOB SOWER, Advision Director. Full details are available on all positions at interview.

NATIONAL SUPPORT MANAGER

Basic c. £12,000 p.a.

Usual Benefits including:

Substantial Tax Free Car Allowance

Central London Based

Our clients are a highly reputable, and respected manufacturer of computer eyetems and are particularly involved in the decentrelised data processing and communications market-places.

They operate in the United Kingdom through a netional network of branches supporting both front line sales executives and pre and post asies support teams.

We are to identify autable candidates for the vacancy of National Support Manager. The job involves the development and respondibility for implementing the systems and software support policy within the company. The successful applicant will be udvising on various facate of the ovaroll support structure including the operating systems support provided by the Company, the role of the software house, the role of pre and post sales support at branch lavel, and the role of the central software development department.

We are inviting opplications from candidates who readily identify with the specification and feel that it is unlikely that eny applicant who has not held a responsible position in a similar support environment, would have the necessary experience to succeed in, this highly demending and vital position.

Reference CW/15/5

Please contact BOB BOWER, Advising Director in the strictest confidence to arrange an ap-

HUSTON EXECUTIVE MERCITION LTD. HUSTON HOUSE, HUSTON STREET, LONDON ECCY BAR,

Kreativität und Kontektfreudigkeit erwünscht Versicherungswirtschaft

Wir bieten den kompletten Rechenzentrum-Service zentral in Frankfurt für alle europäischen Zweige einer weitweit aktiven Versicherungsgruppe. Da die Nechfroge nach unseren Dienstleistungen beständig wächst, haben wir unsere Hardware jetzt euf eine /370-138 mlt 512 KB tunter DOS/VS Rel. 34) ausgeheut. Aufgrund unserer Expansion wird ein

ANALYST/ **PROGRAMMIERER**

- mit guten Englisch-Kenntnissen -

mit der Fählgkeit, Projekt-Leiter zu werden, gesucht. Die Aufgabe besieht in Systemanalyse in allen Versicherungsbereichen für Neuorganisetion, Anderung ond Übernehme fertiger Abläufe für weitere Länder Europes, aber auch teilweise Programmierung (ANS/COBOL) dafür.

Sie heben sich schon einige Jahre in Systemenelyse und Progrommierung im kommerziellen Bereich bewährt, sprechen gut Englisch und kennen sich vielleicht soger schon etwes im Versicherungswesen eue. Sie erwarten gute Entwicklungsmöglichkeiten in einem kleinen Kreis junger und engagierter Kollegen, ein sicheres und ständig wachsendes Aufgabengebiet und selbstverständlich ein sehr gutes Gehalt.

Wenn Sie eich angesprochen fühlen, senden Sie bitte Ihre euesagefähigen Unterlegen en die COMPUTER SERVICES EUROPA GMBH, 21 Westendstrasse, 6000 Frankfurt/M, West-Germany. Tel.: 0611/74 04 04. Ihre Bewerbung wird von uns absolut vertraulich behandelt.

end lemele) whose job skills are in demend, end where a and remete; whose job skills are in demend, and where a shortege exists within the Cenedien lebour lorce. Such is the case within meny erece of the Oeta Processing job merket where there is a strong demend in several erece of the country for the following specialised people.

PROGRAMMER/ **ANALYSTS** £8,000 to £11,000

Experienced with medium to lerge-scele equipment, preferebly IBM under OS/VS or MVS. COBOL, PL1 MARK IV lengueges. CICS, TSO, IMS or other OBMS exposure desirable. Positions available in a broad range of application areas and industries.

SENIOR ANALYST/ PROJECT LEADER TO £13,000

Strong business beckground with severel years' system design end project control experience. Good conceptuel, communication end leedership skills essentiel. Cereer to dete should reflect e provon nock record of success in the implementation of lorge-scele systems. Positions exist in reterling, menulecturing, tinencial institutions end netural resource industries.

SOFTWARE SPECIALISTS to £15,000

A strong damand exists lor specialists, skitlod in the support of large-scele IBM Instellations. Your beckground should include solid experience with any of the OS/VS, MVS, CICS, TSO, IMS OB/OC. System 2000, AOABAS, 370 ASSEMBLER, SCP support, porformance measurement and evaluation. Canadlan business is plecing an increasing amphasis on such loading edge erees as distributed processing, tolocommunications and date base administration.

Our representative will be conducting preliminary interviews in London and should you feel interested in exploring the meller more fully, we invite you. In complete confidence to write or telephone, et which time you would be given more detailed information about Cenade and its major cities, and how your pertrouler skills tit within the prevailing job opportunities.

Jill Rowlends 34 Niton Road, Richmond, Surrey 01-878 8688 (after 8 p.m.)

Basingstoke & Deane Borough Council

Analyst/Programmer

£4239-£4545 plus approximately £520

The Council has decided to appoint a second-in-command in the Computer Section and would be pleased to hear from you if you have some

3 years' experience in Cobpl (including I.S. file

Final II
JCL/George I/George II
Good knowledge of ICL software and its capabilities
The new post is an important one in a small team
operating on ICL 2904 with 2 EDS 60 and 4 mag. taps
with DDE, Future applications will include non-financial
routines and the person appointed will play a significant part in these day Housing accommodation may well be available and assistance with removal costs will be given if required

There is an excellent staff canteen. For an application form returnable by 25th May, 1878, places telephone Besingstoke 56222 ext. 207, or write to: The Personnel Manager, Basingstoke and Deans Borough Council, Civic Offices, London Road, Basingstoke, Hants RG21 2AJ.

The Institute of **Oceanographic Sciences**

has three vacanclas

Marine Information and Advisory Service

MIAS is the netional oceanographic data centre for the UK and has a responsibility to acquire information and high quality data and to make them repidly evailable in the most useful format to industry, research workers and government departments. A computer based data bank has been established at the Bidston laboratory of IOS and the enquiry and

An occenographer is required to easist in the enswering of enquiries, and in perticular to handle requests requiring interrogation of this date bank via a computer terminal at Wormley. Applicants should have an interest in the handling of date by computers. (Rof. 78/009/S93)

Two progremmers ere required at Bidston (Merseyside) to easist in the writing of softwere for the selection, processing and presentation of date and to maintain the MIAS softwere library and its associated documentation. (Rel. 78/201/5) The eppointments will be to the grede of Scientific Officer (SO) or Higher Scientific Officer (HSO) eccording to ege, quelitications and experience. Minimum quellications ere en HNC ni degree in an appropriate subject.

Salary will be
80 £2149-£3527 p.a.
HSO £3254-£4454 p.e.
plus supplements of £313.20 p.s. end 5% of total cornings (subject to a maximum of £208.80 p.s.) Sterting salary mey be above the minimum according to qualifications end

Selarlos our currently under review.

Titore is e non-contributory pension schemo. The NERC is not a government department but conditions of survice ore similar to those of the Civil Service. Application forme and further deteils frem. The Secretery, institute of Oceanographic Sciences, Brook Roed, Wormley, Godelming, Surroy GUB 5UB, Tel. Wormley (042-879) 4141 ext. 272.

Closing date for applications: 31 Mey, 1878. NATURAL ENVIRONMENT RESEARCH COUNCIL

Automation

Engineer Salery: £6204-£6615 inclusive

We have a vacancy lot an Automation Enginesi to assist with eutometion of e eewage treatment works of kingston, Surrey, a wide experience of real time process control systems including deta etorage, system identification, modelling and amulation techniques is assential. Experience in the specification, testing and commissioning of complete systems is nacessary and an ability to program elliciently in a high lavel real time language auch se Extended Fortran, Coral, etc. is essential, together with a transludge of missioners. nocessors and telematry. Familierity with sewage treet-nent processes sensors and instrumentation is destrable but not essential. The person appointed would for the first 2/3 years be based at a control London design office but spend e years be based at a central condor design orace out apende, proportion of his her time at the sewega treatment works at Kingston. Surrey, which is to be extended and automated. Subsequently he/sha would be besed at the treatment works and would have a responsibility for the commissioning of continuing successful operation of the scheme followed by further schemes in the Oragiar London.

36 Hour week : 24 days holiday Pension Scheme

Application forms are svallsbie from Personnel Stanoh, 4th Floor, Broadway Suildings, 50-84 Broadway, Landon, SW1H ODB (Telephone 01-930 0784) quoting reference 78. Closing date: 28 May, 1978.

Thames Water

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- ★ Computer Based Industrial Systems

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This major international mini computer supplier is answering the world's demand for greater productivity by producing automation systems with advanced technology.

Tremendous sales success has created the demand for additional sales engineers in London and the Midlands.

Successful applicants will enjoy an excellent income peckage from a high bese salery plus commission. A company car is provided and benefits reflect the importance of the positions.

Telephone the edvising consultant quoting reference CW 181 or write:



Insight Marketing & Personnel Consultants Limited 72-75 Marylebone High Street London W1M 4AJ Telephone No. 01-486 5644

COMPUTER WEEKLY, May 11, 1978

AUSTRALIA & NEW ZEALAND

OPPORTUNITIES FOR COMPUTER ENGINEERS

Opportunities are available for experienced Computer Engineers who are thinking of migrating to Australia or New Zealand.

Control Data systems are installed in all Australian capital cities and in Auckland and Wellington. New Zeeland. The company's products include mainframe and mini computers, peripherals, terminals and magnetic media and supplies. In addition the company provides a netion wide data services network, maintenance, softwere consulting and computer facilities planning and construction services.

YOU should have several years of system or peripherel experience preferably with Control Data products, IBM 370 SYSTEMS or ICL SYSTEM 4.

YOU will be offered an excellent salary package, superennuation, top working conditions and real career opportunities, in eddition to assistance in relocaling to Austrelia or New Zealand.

For further information please telephone John Smith, London 572 3411, or send your resuma (including contect telephone number) to Control Data Limited, Temlan Wey, Green Lana, Hounslow, Middlesex TW4 6BL, merked for the attention of Mr. J. Smith.

Interviews will be conducted in London during the week commencing 22nd May.

CONTROL DATA

CONTROL DATA AUSTRALIA PTY. LIMITED

-JOIN THE 2900 PROFESSIONALS

SENIOR AND SYSTEMS PROGRAMMERS:

Heve you the necessery expenence end drive to join an energetic teem of computer professionals engaged in inetalling and developing a large ICL 2976 computer providing comprehensive Batch, RJE, MAC and TP facilities

SENIOR PROGRAMMERS with experience of COBOL and SYSTEMS PROGRAMMERS with experience of sophisticeted operating systems (VME/B, George 3 or similar) ere required to supplement the Softwere

NORTH YORKSHIRE COUNTY COUNCIL

The council's administrative headquarters in the market town of Northellerton is in the heart of the North Yorkshire countryside close to the North Yorkshire Moors and Dales Nettonel Perka, York and Harrogata.

A large selection of extractive and reasonably priced properties are available within the town end surrounding villeges.

Starting saleries up to £4615 (excluding Phese 3 settlement) will be paid according to experience. The Council will pay removel expenses, provide essistence with the peyment of legel fees, dieturbence allowence end todging ellowance where appropriate.

If you consider your experience and ability to be suitable then write giving full details of experience, training, age and salary, together with the names and addresses of two referees, to THE COUNTY TREASURER, COUNTY HALL, NORTHALLERTON, NORTH YORKSHIRE, DL7 8AL. TEL: (0609) 3123 EXT.

APPLICATIONS TO BE RECEIVED NO LATER THAN MAY 22, 1978.

Computer Operator/Programmers

£3282-£3622 p.a. inc.

(+ Phaga III salary award.

payable from July t)

Telaphone Cit Medden on 01-202 6548. for sin ignormal discussion, or write for hall discussion, or write for hall discuss and an adultation form, gunding flat 1.13.158 if you are interested in working at Bounds Green, Ref. 113.1eg or Cocklostria. Post your before far that is Appointments Office (queet set.) Middleter. Polytechnic. Borrids Green Road. Lendon M.1. 2NG. Dissing date that Its Cocklostria.

Middlesex Polytechnic

Bounds Green
 Cockfosters

City Treeeurer's Department

The City Council operates an IBM 370/135 under DOS and CICS providing e wide renge of services both finencial and non-linencial to several depertments. There are plans for considerable expension of these services by installing e lerger IBM meinfrems end further on-line Iscilities. We

Systems/ Applications Programmer

Salary Basis £0206-£0512 insluding Phese I and Phese II Pay Supplements (Phase III sward panding from 1.7.78)

Applicants should have severel yeers' experience in computing with an interest in systems and teleprocesseing software. A thorough knowledge of DOS/VS and BAL will be preferred. Specialist DDS/VS and CICS/VS training

Programmer Post No. 551

Salary Scsis £3388-£4615 including Phase I and Phase II Psy Supplements (Phase III award pending from 1.7.78)

To become a mamber of en eetabliehed project teem. Applicants should have two yeers' experience of either &AL or PL/I.

The Civic Offices are newly constructed and include e stelf restaurant. Flaxible working hours ere in operation. Removal and resattlement expanses up to £500 will be payable in appropriete cases.

Application forms ere available from the City Treesurer.
Civic Oilicee, Guildhall Square, Portemouth PO1 2AR or telephone Cath 0 Nelli on 0705 834348. Closing date 1 June, 1978

city of **PORTSMOUTH**

CAPITAL APPTS. GRADUATES Urgendy required for trainea positions Industrial, Scientific Commatical Scientisms Salaties c C3 000 ALL AREAS 637 5551 day: 636 9659 eve.

UNIVERSITY OF YORK Programmer

A vecancy exists for a programmer with COSOL expariance to work in the University's Data Processing Section on a veriety of administrative applications. The University operates a OEC system 10 computer.

Selery within the scale £3,188-£5,282 with USE,

Bix copies of applications, naming three referese, should be sent by 31 May, 1878, to the Registrer, University of York, Healington, York Yot 800, from whom further perticuters may be obtained. Please quots reference number 13/8086.

UNIVERSITY OF STRATHCLYDE COMPUTER CENTRE CHIEF **OPERATOR**

Applications are invited for a second Chief Computer Operator poet in the Computer Centre. The successful candidate will be concerned with the new Honeywell 6000 soon to be inselled in the University and will eventually become involved in the large Network sentine which atready exists in the Computer Centre.

The Universities of Strainciped, Edinburgh and Glasgow are linked by 50Kb communications lines with Node Processor is each sits. Computer systems available through the Network include local systems (ICI, 1904), C.T.L. Front End Processor, Heneywell 6050), ICI, 2980 and 2976 systems is Glasgow and Elizaburgh and I. B. M. at New casele.

castle.

Cantidiples as ampeted to have several years' operating expendency as a Shuff Lander. Knowledge of ignorpous against operating under O.C.Q.B. and against an operating under O.C.Q.B. and against a commental systems.

Scott Wilson Kirkpatrick & Partners

Senior Programmers

We need two Senior Programmers/Systems Analysis to work in our modern ansingstoke ulficn.

Scott Wilson Kirkpattick and Purtners have nieny years' experience in the application of compenses or the fields of structural, civil and highway oughnoung and in transportation planning. Those appointed will be required to work in close only not the pure state of the property of the pinniors in defining the problems to be solved and to work on their own initiative in duvidipping the measury software.

epplication al Fortran IV, huve 5-7 years' ralevant experience nurl HNC/IND in multimounties, statistics and computing or computer studies. They should have expenence is one or more of the following

- Statistical motheris
- Graphical methods
- Systoms programming (mini-computers)
 Matrix operations
- Dete processing

Salery will reflect ego and experience.

- We offer:
- Pensionable eppointments
- Flexible working hours Luncheon vouchars
- Assistence with removel expensos.

Pisase write/telephone for an application form to: Staff Services (Resrultment), Spott Wilson Kirkpatrick and Partners, Spott House, Spaing View, Basingstoke R021 2JG. Tel: Sasingstoke (0258) 81181.

EDITOR

required for an internetional munitily unbecombine imagerine for Osis Processing Management and senior Computer Personnel Ap in depth knowledge of the computer industry and prevents nill-mund journeline experience, including subbing are ossential requirements. Previous experience as an editor would be advantagamie, and some time specification in the computer infustry. It with a computer install would be desirable flues the better communicate of including with undustry people at all fevels, control a small advantagement, and work clusely with the publisher and advantagement numbers.

Apply to: Peter Thomas, Publisher, tPC Electrical-Electronia Prets Ltd., 78/80 Blacktriers Road, London SE1 8 LU. Tel. 01-281 9113.

ANALYST/ PROGRAMMER

MEDICAL RESEARCH COUNCIL

£4885-£5887 (currently under review)

Tha Council requires an analyst/programmer to join e small DP saction at its haadquarters office in Central

Applicants for this kay post, preferably graduate or with an appropriate professional qualification, should have substantial COBOL programming experience and praferably knowledge of GEORGE 3 end ICL 1900 software. They should also have participated in the analysis, design and implementation of at least one successful computer system.

The DP section is currently involved in the development and meintenance of a veriaty of applications and proposals for naw systems are well advanced. The Section has access to the Council's own ICL 1903A at Harrow end is linked to one of the largest bureau mechinas in the UK by RJE end MOP terminal. Conditions of service are excellent and, in addition to a

starting salery in the range above, there is e contributory pension scheme with companiatory salary supplement, staff restaurant, and an initial annual leave entitlament of 22 days. The office uses the flexible working hours system.

Please write or talephona Miss Margaret Gala, Medical Research Council, 20 Park Crescent, London W1N 4AL (01-636.5422 ext. 35) for en application form and quote raference No. P1002/69, Applications should be returned by 22 May, 1978.

£3800

FOUR IBM DOS OPERATORS £3700

THREE ICL 1900/2960 OPERATORS Junior Opa: £3400 Senior Ope: £4000

FIVE PDP 11 SERIES OPERATORS: vhateve your experience !

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Ha/she will have full responsibility for the continuing implementation of an integrated type setting and com-mercial real-time system, using on-line order entry, and related to the critical tining disciplines associated with nawapapar production.

He/she will need experience of

#Programming: #Programming in BASIC plus:

and have the ability to manago and motivate on axperlanced teem of four programmers and live operators. Equally important, ha/sha will need to be a down-toearth manager, a good communicator, and sympathatic to user departments and to the priorities of newspaper production. This adds up to the ability to get thinge

As a reward, he/sha can look forward to.

#Considerable job satisfaction, in an anthusiastic team, using three POP II / 40's; #A good salary;

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The opportunity to grow with a project which is in an advanced stage of implementation, but with expensive

If you think your experience and qualifications fit you for this position, write or phone for an application form to: W. J. Austin-Clarke, Group Personnel and Training Officer, Yorkshire Post Newspapers Ltd., P.O. Box 168, Wellington Street, Leads LS1 1RF. Tel, Leads (0532) 32701.

Puzzle answer

WHITE (moving up the board) plays 7-3 at his next turn, and then continues 5-1-5-1- ad infinitum however Black plays.

9 9 9

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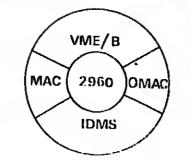
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London EC2N AAR or telephone Mr. J. Eley on 01-588 4841



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First 2960 in Southampton



Pirelli General Cable Works Ltd., pert of the International Pirelli Organisation, will replace its existing 1902T in its Head Office at Southampton with a 2.25 megebyte ICL 2960 in the last quarter of 197B. Pirelli General's information system comprises some 35 discrete systems

which are currently being converted to IDMS. The 2960 with VMI/B will allow these IDMS systems to be fully utilised in conjunction with 112 systems and they will be linked in the medium term to our line manufacturing systems using OMAC.

We have mmedieta raquirements for

Senior Systems Analysts Initial Salary £5,200-£5,600

Competent Analysts, especially with 2900 or IDMS experience, are required to hasten the conversion of Company systams to IDMS and to develop TP access systems.

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Skilled programmers are required to create an efficient VME/B environment suiteble for the development of TP systems. Emulation in the mitial stages will be by BMEEP.

All posts carry -



* Excellent sickness, life assurance end pensions benefits

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